PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 18, 1879.

ORIGINAL COMMUNICATIONS.

VEGETATIONS OF THE ENDOMETRIUM.

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Read before the Philadelphia County Medical Society, December 11, 1878.

THE vascularity of the womb, its sexual and periodic congestions, the structural energy with which it is endowed, and the lesions to which it is subjected, make it peculiarly liable to be invaded by benign and by malignant growths. The most common are those which develop in the endometrium in the shape of vegetations, and to these I shall limit my paper to-night. Of these vegetations I shall describe three varieties, beginning with the one most frequently met with.

(*a*) *Fungous Degeneration of the Endometrium.*

A very common cause of menorrhagia, and also of leucorrhœa, is a hyperplastic condition or diffused thickening of the lining membrane of the womb. This peculiar proliferation of the endometrium shows itself by small sessile vegetations of a red, gelatinous appearance, which stud the mucous surface, and range in size from a millet-seed to that of a pea, by redundant mucous folds of a spongy consistence, and by club-shaped polypi. Then again there may be found small tufts of placental tissue, or placental villosities, which do not atrophy and disappear, because something has interfered with the process of involution. Various names have been given to this condition, but that of *endometritis hyperplastica* seems to be the best. A chronic endometritis is undoubtedly the most common cause; but whatever induces uterine congestion will also tend to produce these growths. Thus I have discovered them in wombs enlarged by a fibroid tumor and in those containing a polypus. They are very common in subinvoluted and in retroflexed wombs, and are almost always present in neglected cases of laceration of the cervix. I have also on several occasions found them in women who were avoiding pregnancy, and especially by the method of withdrawal. Under such circumstances the uterus maintains a high degree of congestion, and by constant repetitions of the exciting cause, it increases in size, its mucous lining becomes thickened, and fungous degeneration takes place. Sterility also seems to be no infrequent cause of the same thing, the menstrual and sexual congestions continuing without that break which gestation and lactation bring. With regard to the influence of imperfect sexual relations, a very interesting case came to my notice not long ago. A lady consulted me at my office about severe uterine hemorrhages. A speculum examination revealed two small polypi dangling out of the os. These I twisted off, and then proceeded to examine the uterine cavity with the sound. Upon its withdrawal I found on its tip a club-shaped polypoid growth, very nearly an inch long. This led me to use the curette, and I removed a large number of fungoid growths from the cavity, quite the largest in size that I have ever seen. She was married to a man twenty-five years older than herself. In other words, he had reached a time of life when his sexual powers were failing, while she was at an age when her own were vigorous and exacting. His embraces were at long intervals, and so imperfect that they inflamed her passions without satisfying or allaying them. This was to my mind, as well as to hers, the explanation of the chronic uterine congestion, the origin of the cervical polypi, and the cause of the fungoid degeneration of the endometrium. And here let me say that, in my experience, so close a relationship subsists between the existence of these cavity growths and that of cervical polypi, that the latter are pretty sure to be accompanied by the former. This explains the fact that the removal of cervical polypi is often not followed by that expected improvement in the menorrhagia. Whenever, therefore, cervical polypi are present, the uterine cavity should be searched for its own vegetations.

Endometritis hyperplastica is a disease more particularly of the child-bearing age; but, as will shortly be shown, it sometimes affects women long after the climacteric. Its existence can only be inferred by an ordinary uterine examination. The sound usually causes some blood to flow. When sponge- or laminaria-tents are used, these

vegetations or mucous folds are so flattened out and smoothed out by the pressure that the finger will rarely find them on the sides of the uterine cavity; but those on the fundus will very generally be felt either as slight roughnesses or as soft spongy tufts of mucous membrane which retreat before the finger. The only sure test of their presence is the gentle scraping of the endometrium by a curette, which will dislodge some of them, and will then bring away either club shaped polypi or soft, gelatinous masses.

The disease being one of the endometrium, the microscopic examination will show characteristic changes in the mucous lining of the womb, but always reproducing the parent tissue. There will be found, according to Olshausen,* "greatly hypertrophied mucous membrane, with increase of all its elements, dilated follicles, enlarged blood-vessels, and great cell infiltration of all the connective tissue. Running up to the epithelium are large ectatic blood-vessels filled with coagula, and near them great numbers of white blood-corpuscles, quite round and fresh-looking; while around the enlarged follicles there are many spindle cells arranged in regular lines. These prove the chronicity of the affection. Cross-sections of the glands show them to be round and normal. The dilatation of the follicles differs in degree, but never amounts to a cystic formation visible to the naked eye. There is never any appearance of a decidua-like formation." Nonat† calls them "*fongosités intra-utérines*," and describes them as of the same structure as the uterine mucous membrane, being largely made up of connective tissue and fibro-plastic elements, and covered by the epithelium peculiar to the endometrium. Munde, in his admirable essay on the "Dull Wire Curette,"‡ quotes the microscopic observations of these vegetations by Dr. M. D. Mann, pathologist to the New York Obstetrical Society. According to him, they "consist histologically of structureless basement substance, containing great quantities of small round cells and nuclei, and portions of uterine follicles and vessels." In a letter on the subject, which Dr. A. H. Fitz, of Boston, was kind enough to write me, he says, "The glands are found elongated, the blood-vessels dilated and injected, and occasional hemorrhages are found to have occurred within the mucous membrane." Dr. W. F. Jenks describes these hyperplastic growths as "consisting of simple embryonic cells imbedded in an almost homogeneous or slightly fibrillar intercellular substance, which contain moreover the distinctive marks of uterine structure, muscular elements, glands, vessels, etc."§

When these vegetations are of this character there is generally very little difficulty in the way of their cure. Their existence being established by the use of a blunt curette, such as Thomas's, they are to be removed, if possible, by the same instrument. I say, *if possible*, because I have repeatedly found the blunt curette to fail in removing all the growths, and have had to resort to Sims's sharp curette, which is a far more efficient but, at the same time, a more hazardous instrument. Simon's spoon-curette is also a very handy instrument for this purpose. Whenever the redundant mucous membrane hangs down in spongy folds, I have found nothing to remove it so well as a small pair of fenestrated polypus-forceps. It pinches off each fold without injuring the sound structures; but it has the drawback of needing some previous dilatation of the cervical canal, which the curette does not ordinarily need. The sponge-tent sometimes cures this condition of the endometrium, either by crushing these vegetations or by entangling them in its meshes and breaking them off during its withdrawal. In most cases the curette is needed but once; but occasionally it will have to be resorted to oftener. Immediately after using it, I am in the habit either of swabbing out the uterine cavity with a strong tincture of iodine, or of injecting into it a few drops of the same fluid. One circumstance attending the use of the curette is the occasional postponement of the next menstrual flux. This result happens often enough to make it worthy of note.

In illustration of this treatment, I shall give the brief histories of a few selected cases:

Case I.—Mrs. H. J., aged 37, and seventeen years married, has had two labors at term, and one miscarriage ten years ago,—the latter unwittingly brought on by the late Dr. Wash-

* American Journal of Obstetrics, November, 1875, p. 561.
† Maladies de l'Utérus.
‡ Edinburgh Medical Journal, January, 1878.

§ American Supplement to Obstetrical Journal of Great Britain, vol. i. p. 116.

ington L. Atlee during a uterine treatment. Since then she has not conceived, but has had menorrhagia, which steadily progressed until her monthlies became floodings, which greatly reduced her. I thoroughly scraped the uterine cavity with the blunt curette, and brought away some vegetations and a few mucous shreds. The next period was so profuse that I repeated the use of the same curette, and again brought away like bodies. The following period was much better, and I thought her cured; but the succeeding one ushered in so serious a flooding that I made up my mind that an intra-uterine polypus was the cause of it, and I introduced three tents. On the following day, with the assistance of Dr. Hermany, of Mahanoy City, and of Dr. B. F. Baer, I put her under ether and removed the tents. The finger passed readily into the uterine cavity, but detected nothing besides proliferation of the endometrium. Using Sims's curette, I, however, removed many vegetations, and among them a piece of deciduous-like membrane, covered with ramifying vessels, and about half an inch wide and an inch and a half long. The uterine cavity was next swabbed out with nitric acid. This was rougher treatment, in so far as the acid is concerned, than I should now adopt, but it was followed by no worse inflammatory results than a slight metritis. This operation not only cured her of her floodings, but it more than cured her, for she did not again menstruate for six months, and is now quite irregular in the performance of that function.

Case II.—Mrs. ——, of Omaha City, consulted me about serious floodings at her menstrual periods, which had greatly reduced her strength. Failing to cure her by the blunt curette, I introduced a tent, put her under ether, and used the sharp curette and polypus-forceps. Many vegetations were removed, but her next period was postponed for two months. She got well without any further treatment.

Case III.—Mrs. D., of Georgia, presented the same symptoms as the preceding case. She was treated in like manner, and missed her monthlies also for two months. This happened six months ago, and the floodings have not since returned.

Case IV.—M. McM., single, and aged 35, has always had free menstruation since puberty, but since January, 1878, her monthlies have been exceedingly profuse. They began last on May 21, and, as they continued despite all treatment until June 15, her physician on that day securely plugged her vagina, and sent her to the Hospital of the University of Pennsylvania. She was pale, bloodless, and so weak that she was brought from the railroad-depot in an ambulance. I at once put in tents, and kept them in forty-eight hours, so as to gain complete dilatation with one batch of them. On June 17, assisted by Drs. Palmer and Jones, I removed the tents, and found three sessile polypi within the cervical canal, and one pedunculated one dangling within the os internum. This last one had acted like a ball-valve in hampering the flow of the menses and had been the cause of much dysmenorrhœa. After twisting off these polypi, I scraped the endometrium and removed a large number of hyperplastic vegetations. She got well, and has stayed so ever since.

Case V.—M. D., aged 21. Menstruation began at thirteen, and has gone on increasing until it lasted ten days and needed the use of from three to four napkins daily. I operated before the class of the University on October 17, 1877, and removed a number of vegetations. A slight parametritis kept her in bed for three weeks, but she got up well of her old trouble.

Case VI.—F. J., a young married lady, from North Carolina, came to consult me about her general ill health, and especially about her sterility, she having been married already three years without conceiving. I learned that she had dysmenorrhœa and was losing altogether too much blood at her periods. So, in October last, I scraped her womb with a blunt curette, but, finding very few vegetations follow its withdrawal, passed in the sharp curette. Numerous club-shaped polypi were removed. Her disease was a typical example of what Olshausen calls *endometritis polyposa*. Her next menstruation being free from pain and rather scant, she went home, stronger and better than she had been for years.

Of such cases, of which the above are but samples, I have had so many and such successful ones by one or at the most two applications of the blunt or of the sharp curette that I have ceased to keep any record of them. But I now come to a series of stubborn cases which have puzzled me not a little, and which lead me to think that I have much to learn on the subject of intra-uterine vegetations.

About two years ago, the sister of a distinguished gynæcologist was brought to me from a distance, on account of terrible floodings. She was about fifty years old, a widow for over twenty years, of a florid complexion and full habit, and with a sluggish circulation, dependent, as I believe, on some obscure cardiac affection. She began to bleed about two years before, and kept losing more and more, until the loss had become very alarming. Accompanied by her physician and by a friend, she was carried on a litter and with her vagina very firmly tamponned. I found the cervix large and flabby, the os unusually patulous and jagged, the womb

retroflexed and measuring not quite four inches. So impressed was I with the conviction that she had a polypus, that I at once put in several tents, and invited my friend Dr. John Ashhurst to aid me in its removal. Nothing was, however, found besides a very large number of vegetations, so large that I began to fear the case was one of diffused sarcoma, and submitted them to two excellent microscopists, who independently concurred in pronouncing them benign and the production of an endometritis hyperplastica. Owing to exhaustion from these great losses of blood, this lady's convalescence was slow; but she ultimately got well enough to go home. She saw no monthlies for nigh three months; they then began to return, and more and more abundantly, until I was obliged to interfere with the curette and remove a number of growths, but not so many as at first. As after the preceding operation, she became much better, and stayed so for some months. Then, in spite of repeated applications of nitric acid made to the cavity by means of a platinum tube, in spite of many intra-uterine injections of iodine, of carbolic acid, and of iron, in spite of the use of several pieces of the silver nitrate, the bleedings began to return, and I shall very soon be again obliged to use the curette. Having lately complained of failing eyesight, I sent her last week to Dr. S. D. Risley, who finds that she has several retinal clots; and I cannot but think that this hemorrhagic tendency may throw some light on the case.

Two other analogous cases have come to my attention, but unfortunately in neither were the vegetations examined by the microscope. Yet from the macroscopic appearance I should say that they were simply hyperplastic growths. One was a patient of Dr. J. R. Chadwick, of Boston. He had repeatedly used the curette in her case, and as often had removed some vegetations. Last month, while on a visit to this city, her catamenia came on with alarming profusion, and she sent for me. Finding great difficulty in checking them, I used the blunt curette and removed a number of vegetations, but to no purpose. Several tents were therefore crowded in, and upon their removal I was able, with the finger, freely to examine the endometrium. Other vegetations being found, I then used the sharp curette, and thus succeeded in stopping the bleeding.

The other case was a patient of my honored friend Dr. J. C. Reeve, of Dayton, Ohio. He had in vain repeatedly used the curette and every known intra-uterine application for the cure of a menorrhagia, and finally he sent her to me. I used the blunt curette three times, followed each time by the sharp one, made two intra-uterine applications of nitric acid, and several injections of iodine, and yet I fear that she has not been cured.

Now this lady was quite stout, and the two preceding ones were of a full habit and of florid complexion. Excess of pabulum, therefore, may have something to do with the liability of these vegetations to return. Yet I cannot but fear that they may yet prove recurrent *per se*, and therefore quasi-malignant; but time alone will show this. Other physicians have been likewise perplexed. At a meeting of the Obstetrical Society of Boston,* Dr. Chadwick referred to one of his obstinate cases, and said that "Dr. Fitz had been unable to pronounce between these modified conditions of the mucous membrane and sarcoma in one or two specimens which he had sent him;" Dr. Lyman stated that in one case the mass of proliferated mucous membrane "was different from anything he had before seen;" while Dr. Sinclair reported a case which he had been obliged to scrape three times within a year, before a cure was obtained.

(*b*) *Villous Degeneration of the Endometrium.*

Another form of uterine vegetations occasionally met with is a villous degeneration of the lining membrane of the womb. To me this condition is yet a pathological puzzle, and in my ignorance I am compelled to resort to cases for illustration.

Case I.—On April 7, 1877, I was asked to see Miss ——, a somewhat corpulent maiden lady of fifty odd. Five years before, she had ceased to menstruate, but one year ago she began to lose blood from the womb at irregular intervals, and especially after riding in her carriage. For six months of the past year she had been attended by a very clever homœopathic physician, who, however, limited himself to a constitutional treatment. The rest of the time she was in the hands of a female practitioner, who treated her locally

* Boston Medical and Surgical Journal, Oct. 10, 1878, p. 469.

for "ulceration of the womb." I found the cervix virginal and perfectly free from any vestige of disease, the womb movable and natural in position, but very nearly three inches in length. She had occasional hemorrhages, and was daily using two napkins to absorb a pinkish and an inodorous discharge. The os externum was too small to admit a curette, and therefore my treatment was an imperfect one until the 25th inst., when I prevailed upon her to let me use a tent. The next day I scraped out the uterine cavity with the blunt curette, removed a small number of gray fragments, looking like boiled tapioca, and painted the endometrium with a saturated tincture of iodine. The discharge was reduced to the merest leucorrhœa, and, after paying her several visits, on June 7 I pronounced her cured and ceased my attendance. But on July 19 I was sent for, to learn that the pink discharge was beginning to return, and that a slight hemorrhage had taken place. The os uteri being now larger, I began a series of scrapings, both with the blunt and the sharp curette, and made intra-uterine injections of a saturated tincture of iodine, and of strong solutions of the silver nitrate, of chromic acid, of tannin, and of the subsulphate of iron.

The curetting and the applications did her much good for the time being, but whenever she made me desist from local treatment—for she could not bear much pain—the discharge began to return. Once I slipped in three tents and examined the uterine cavity with my finger. I found nothing but a number of isolated rough points, which I scraped away with the sharp curette, and then swabbed out the cavity with fuming nitric acid. Several times have I pushed into the uterine cavity a good-sized piece of the solid silver nitrate, but all with no avail.

Getting alarmed at the return of the vegetations, I submitted separate specimens to Drs. J. Tyson and Carl Seiler. The former under the date of October 15, 1877, wrote to me that "The fragments are those of a papilloma (Zotten-Krebs) or villous cancer of the uterus." In this decision Dr. Seiler also concurred, after an independent examination of entirely different fragments.

One day in February, 1878, after a truce of about three weeks, another hemorrhage took place. I now found the os almost patulous enough to admit my finger, and when I introduced a small glass speculum into the vagina, the pressure of it upon the lower portion of the womb squeezed out a number of brain-like vegetations of unusual size. The curette and intra-uterine injections were of course again resumed, but in addition full doses of arsenic were given, and so the treatment went on until last July, when, upon giving an unfavorable prognosis, my patient concluded that I could not cure her, and very wisely discharged me. I have since learned that she is steadily failing.

Case II.—On March 28 of this year I was called by a medical friend to see a lady of full habit, who was about 45 years old. For a year she had been bleeding very desperately at her monthly periods, and she had now been losing blood for three weeks. I found a very ragged os, angry-looking enough to have been mistaken for a cancer, and large enough to admit the finger half-way up the cervix. The womb was very bulky, and gave a measurement of four inches. So much blood escaped on the withdrawal of the sound that the diagnosis of polypus was unhesitatingly made.

Four or five tents were accordingly crowded in, and the next day I went fully prepared to remove the growth. The patient was etherized, and upon the withdrawal of the tents I was able to explore very carefully the whole uterine cavity. To my surprise, no polypus was present, but in its place a large number of vegetations. These I removed with the polypus-forceps and with the dull and the sharp curette. Most of them came from the left cornu, and they were so numerous that they must have filled a dessert-spoon. The endometrium was next painted over with a saturated tincture of iodine. No bad effects followed, and she became very much better in every respect.

This improvement, however, did not last very long, and I was again compelled to use the curette on June 19, and yet again on July 5, removing on each occasion large quantities of vegetations.

At this last visit I swabbed out the uterine cavity with fuming nitric acid. The benefit this time was more lasting; but a fortnight ago I was told by the physician that the hemorrhages were returning, and that my services would soon be needed again.

Case III.—Late in the night of the 17th of last February I was summoned to see the mother of a medical friend. She was 65 years old, and, like the preceding cases, of full habit, but in splendid health. Her monthlies used to be very abundant, but they ceased at the age of fifty, and she had not since lost a drop of blood per vaginam. But during this day she felt her old menstrual pains, and at night, without other premonition, a profuse flow came on. I contented myself with giving her some doses of ergot, and two days later made a thorough examination.

The womb was movable and gave a measurement of three inches. The cervix showed no signs of disease, but the os was larger than it should have been at that time of life, and it gave egress to a fluid like the menses in color and in smell. The blunt curette being introduced brought nothing away; so a sharp one was used, which scraped off one hard mass as large as a bean, and numerous other tapioca-like growths of the size of a pea, which very nearly filled the bowl of a tablespoon. Since that operation she has not lost a drop

of blood from the womb, has had no leucorrhœa whatever, and remains in apparently perfect health.

The high social standing of this lady, and her near relationship to one of our profession, made the question of malignancy one of great importance. On the other hand, the diagnosis of villous cancer and the constant return of the vegetations in my first case, and their large number with two returns in my second case, made me watch all three with intense interest. Specimens of the vegetations of each one were submitted to Dr. W. F. Norris, who was kind enough to examine them for me with the utmost care, and the following is his report:

"26th June, 1878.

"DEAR DOCTOR,—The specimens which you submitted to me are all essentially alike in structure.

"They consist of ovoid masses covered with clotted blood. After the removal of the latter, they appear of an ash-gray color, covered with minute rounded prominences, and average about seven mm. in length by five mm. in breadth.

"Some were examined while fresh by tearing, and without the addition of any reagent; others were treated with a one-fourth per cent. solution of silver nitrate, and others, again, hardened in nitric acid. Of the latter numerous sections were made, which showed everywhere a series of thin-walled blood-vessels, arranged in loops, covered by a columnar epithelium.

"Those treated with silver nitrate presented over their entire surface a net-work of delicate black lines, including irregularly polygonal spaces due to the well-known action of this agent in intercellular material.

"With one or two exceptions, all the ovoid masses were, when fresh, very soft, and readily crushed between the fingers. Those which were harder were similar in structure to the softer ones above described, but owed their hardness to blood-clots which lay in the interpapillary interstices and which were undergoing absorption organization. The surrounding tissues, as well as the clot itself, were tinted with various shades of decomposing hæmatin, and in the clot itself were numerous single and many nucleated cells entangled in meshes of coagulated fibrin. There was nowhere any trace of the fibro-muscular walls of the uterus.

"I consider the growth to be a papilloma. As regards the question of malignancy, its epithelial nature, of course, gives it at once an appearance of relationship to the epithelial cancers; but this question, I think, must be decided by a section of the growth in situ, and the observation whether or not it has a tendency to infiltrate and spread in the proper uterine walls.

"Yours, truly,

"WM. F. NORRIS.

"1526 LOCUST STREET."

Very fortunately, I have not yet had the opportunity of making a section of such a growth *in situ*, but Dr. W. Lusk, of New York, reports a case* which died from progressive cachexia, and in which he secured an autopsy. The examination of the womb was made by that excellent pathologist, Dr. M. D. Mann, who pronounced the disease to be "villous degeneration of the uterine mucous membrane," and adds, "The specimen is one of extreme interest both clinically and pathologically, no such case having been described by any author with whom I am familiar." Dr. P. B. Breinig, of Bethlehem, Pa., also reports an analogous case.† The fragments removed were submitted to the Committee on Morbid Growths of the Pathological Society of Philadelphia, who "were inclined to consider it a cystic papillary adenoma." Dr. Breinig has since informed me that he operated on this case on January 9, 1878, with Recamier's curette; that she was much improved for a short time, but died early in the following March. Winckel found a womb in the Dresden Museum, unfortunately without clinical history, which he and Dr. Hirschfeld carefully examined, and which, from the description and the beautiful illustration accompanying it, must have been analogous to my first case of this group.‡ Winckel, from the microscopic and macroscopic examination, called it an *adenoma papillosum diffusum partim polyposum corporis uteri*. Hirschfeld, who confined himself strictly to its histological aspects, gave it the name of cylinder-celled adenoma (*Cylinderzellenadenom*). This specimen led Winckel to think that a case which he had treated at Rostock, and to which he had given an off-hand diagnosis of sarcoma, must have been one of these villous growths. In spite of treatment, the hemorrhagic growth returned, but owing to his removal from Rostock to Dresden he lost sight of the case. Later, he saw a case in which the disease began within the cervical canal, and, despite all treatment, rapidly descended. In six weeks' time it had invaded not only the vaginal portion, but

* American Journal of Obstetrics, January, 1878, p. 133.
† Philadelphia Medical Times, April 27, 1878, p. 354.
‡ Die Pathologie der weiblichen Sexual-Organe, Leipsic, Lief. ii., p. 40.

the vagina as well. As the woman now ceased to attend his clinic, he concluded that the issue was a fatal one. Referring to this case, he says, "The rapidity of return, and the great extent of surface attacked, show that such adenomata are not much behind the most malignant new formations." To this group of adenomata belong two cases reported by Matthews Duncan.* In each there was a return of the growth in the uterine cavity, and the general health of each was failing at the time when his paper was read.

Villous cancer of the bladder is not an uncommon disease; but of the cavity of the womb it is either extremely rare, or it has not been recognized. Apart from my cases, and from those reported by Drs. Lusk and Breinig, and perhaps the two of Dr. Duncan's, I know of none with clinical histories. I do not think that the pathological status of these villous growths has yet been definitely settled; and the field remains open to future investigators. The careful autopsy of Dr. Lusk's case, the fatal issue of Dr. Breinig's case, and the unequivocal history of my first case, point to forms of a malignant type. But in my second case there is no appearance of progressive cachexia: on the contrary, the lady has greatly improved in health; while, as regards my third case, ten months have now elapsed since the use of the curette, and yet there have been no uterine symptoms whatever, and no impairment of her splendid physique.

With our present light the prognosis of villous growths of the endometrium must of course be a guarded one, and yet not wholly unfavorable. Winckel reports a cure of one, springing, however, from the fore-lip of the cervix; and Professor Kocker, of Berne, avers "that papilloma vesicæ in the female has been frequently treated by operative proceedings (through the dilated urethra) and brought to a satisfactory conclusion, and, indeed, been healed."† He further reports a cure of this disease in the male bladder, by opening the urethra on a grooved staff, and then scraping off the growth by a long sharp scoop, bent at an angle. Another case of villous cancer of the female bladder is published by Dr. W. Alexander, who in October, 1877, and in the following May, scraped off the growth with apparently good results.‡ Bryant, however, declares that "there is no cure for this affection. . . . The disease usually destroys life in about two years."§

(*c*) *Sarcomatous Degeneration of the Endometrium.*

To make this memoir more complete, some reference must be made to sarcomatous degeneration of the endometrium. And I wish here to be understood as not referring to sarcoma of the parenchyma, which is essentially fibroid in its structure, circumscribed in its growth, and which assumes a tumor-like form from the outset; but to sarcoma of the mucous membrane, which begins as a diffuse proliferation and grows in the direction of least resistance, viz., into the uterine cavity. It may, however, secondarily invade the wall of the uterus, either by destructive pressure or by direct infection; but this happens only in its last stages. It consists microscopically of a new growth of small round cells, which, as Jenks, who has written an excellent paper on the subject, has observed,‖ "are always separated the one from the other by a certain amount of intercellular substance, and are arranged after no definite type, never packed together in alveoli, as is the case in cancer."

Irregular and profuse menstruation, and intermenstrual leucorrhœa gradually becoming more and more fetid, are the first symptoms; then pain, when the mass has grown large enough to arouse the resentment of the womb and awaken its contractions. The curette will cause considerable hemorrhage and bring away many fragments which present the appearance of medullary cancer; but a microscopic examination will infallibly determine their character. If the cervical canal be now dilated and the finger passed in, the uterine cavity will be found filled by an irregular, ragged, and diffuse growth, without a capsule, which breaks down under the finger. Sometimes the womb, irritated by the growing mass into powerful contractions, will force a portion of it into the vagina. It will then assume the form of a polypus, the pedicle of which will be the part con-

* Obstetrical Journal of Great Britain and Ireland, November, 1873, p. 407.

† British and Foreign Medico-Chirurgical Review, July, 1876, p. 210, from Centralblatt für Chirurgie, April 1, 1876.

‡ Lancet, August 17, 1878, p. 209.

§ Surgery, p. 505.

‖ American Supplement to Obstetrical Journal of Great Britain, vol. i. p. 115.

stricted by the os uteri. By this constriction the circulation of the protruded portion becomes impeded. It therefore disintegrates, bleeds profusely, and gives off a very fetid smell. Its diffuse growth, absence of capsule, friability, placenta-like structure to the feel, and, later, its excessive fetor, stamp it with an almost unquestionable macroscopic individuality.

The prognosis is an extremely unfavorable one, but the fatal issue is greatly postponed by operative measures, — far more so than in epithelial cancer of the cervix.

The treatment consists in repeated removals of the growth as fast as it is renewed. This is best accomplished by crushing off the polypoid portion by the écraseur, by scraping its base with a sharp curette, and by cauterizing it either by the hot iron or by fuming nitric acid.

I have met with this disease in one typical case:

M. D., aged 45, was, according to her own account, well and regular until June, 1871, when she "flooded" continuously for four weeks. July 4, she called in a physician, who removed a tumor from her vagina as large as her fist. She was now free from hemorrhage until Christmas, when flooding again began. As nothing checked this, a vaginal examination was made, and another tumor found. It was removed by the écraseur in February, 1872, and again a third one in the following April. The following June she was first seen by me, and I found a polypoid tumor as large as a hen's egg protruding from the os uteri. It had no pedicle other than the constriction caused by the os, and seemed attached to the whole left lateral surface of the uterine cavity as far as the finger could reach. Being very friable, it broke down under traction, and was, therefore, removed (July 1) in fragments by fenestrated forceps, curved scissors, and by scraping the uterine walls with the curette and the finger-nail. For nigh two months succeeding the operation, the patient, being put on iron and arsenic, improved astonishingly, and I flattered myself that she was cured; but late in August hemorrhage again returned. In spite, now, of the use of the curette, of intra-uterine applications of carbolic acid, of the silver nitrate, of tincture of iodine, and of nitric acid, repeated alternately every week after the operation, the growth was slowly reproduced. November 2, she passed a large fragment, after severe expulsive pains. On the succeeding day the os was found blocked up by an exceedingly offensive mass, which was removed in fragments and sent to my friend Dr. William F. Jenks for examination. He found the growth to be a round-celled sarcoma. The uterine cavity seemed now to be wholly invaded. On the 16th, another large mass was expelled, after very severe expulsive pains. She now steadily grew worse, and discontinued her attendance on the clinic of the University of Pennsylvania. Subsequently it was learned that after being greatly reduced by hemorrhages, and after suffering more or less from severe uterine colics, she died early in 1873.

Another very analogous case I have had, verified by microscopic examination; but I have mislaid my notes, and cannot remember the details. Two years ago I am sure that I saw a third case, a patient of Dr. E. L. Evans, and a lineal descendant of one of our Hessian prisoners who settled down on the Neck after the close of the Revolution. She was over sixty, and had been losing blood,—a loss which she had at first welcomed as a token of returning youth, but she soon changed her mind and sent for Dr. Evans. He discovered the tumor, and asked me to see her. I found a large friable and non-capsulated tumor, exactly as in my first case, protruding from the os. It broke down under traction, and I wrenched off fragment after fragment with a polypus-forceps until its base was reached, which seemed to cover also the whole left lateral surface of the endometrium. This I scraped smooth and then cauterized with a saturated tincture of iodine which happened to be in my bag. I gave a very unfavorable prognosis; and yet no hemorrhage has since returned, and the woman is apparently now in perfect health. Very unfortunately, I lost the fragments carried away for microscopic examination; and yet I cannot help thinking that it was an undoubted case of round-celled sarcoma. If so, it will sooner or later return.

A MODIFICATION OF BLAKE'S-WILDE'S AURAL POLYPUS SNARE.

BY CHARLES HENRY BURNETT, M.D.,

Aural Surgeon to the Presbyterian Hospital; Consulting Aurist to the Pennsylvania Institution for the Deaf and Dumb, Philadelphia.

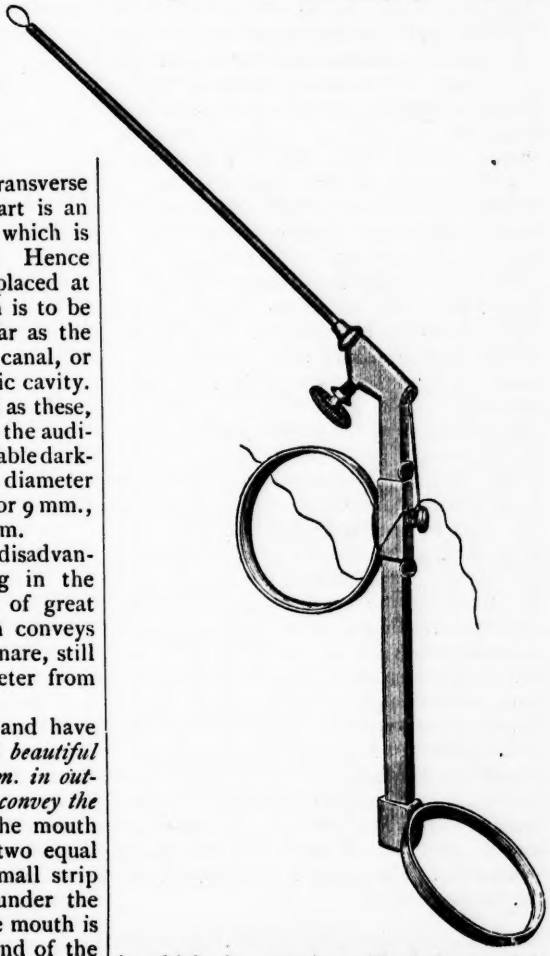
MOST surgeons are familiar with Wilde's aural polypus snare, and also with the admirable modifications of that instrument suggested by Dr. Clarence J. Blake, of Boston. Among these improvements—for such, indeed, must these

modifications be called—the principal one consists in making the wire run through a narrow barrel instead of on each side of a solid shaft. This change in the instrument of Wilde at once provided aurists with a much narrower and hence better instrument with which to extract aural polypi.

However, as great as this improvement is, I have never found in any of the instrument-makers' shops a **Blake** canule narrower than 2.50 mm. in its outside diameter, and all of them are slightly widened and flattened near the distal end, so that a transverse section of the canule at that part is an ellipse, the longest diameter of which is 4 mm. and the shortest 2.50 mm. Hence there is a kind of knob, thus placed at that end of the instrument which is to be introduced, in many cases, as far as the fundus of the external auditory canal, or perhaps even as far as the tympanic cavity. But even with diameters as small as these, an instrument when inserted into the auditory canal would produce considerable darkening of that cavity, the normal diameter of which at its opening is about 8 or 9 mm., and at the fundus about 6 or 7 mm.

In order to overcome this disadvantageous darkening in operating in the auditory canal, I have found it of great service to have the canule which conveys the wire in the Blake's-Wilde's snare, still narrower, and of uniform diameter from end to end.

Therefore I have had made,* and have used successfully, *a strong and beautiful steel canule, 6 cm. long and 1 mm. in outside diameter, through which to convey the wire which forms the snare.* The mouth of this tubule is divided into two equal openings by the insertion of a small strip of metal (seen in the figure, under the loop), and the outer edge of the mouth is bevelled, so that the operating end of the instrument is less likely to wound the tissues of the external auditory canal. Of course, the slenderness of the tubule and the smallness of the fenestræ at its distal end render necessary the use of very fine wire, and therefore I have tried, so far with entire satisfaction, *fine brass piano-wire.* The canule, thus narrowed and armed with wire, is adjustable to the Blake handle, as shown in the accompanying figure. The tubule for conveying the wire might be made of the same dimensions, of virgin silver, and thus rendered flexible,—a very desirable character in some instances, in which a polypus lies far forward in the anterior part of the canal or tympanum, and



in which the anterior wall of the canal is well curved backward.

No such originality as is found in Blake's instrument is claimed for the wire-conveying tubule as modified and here described by the writer; but any one operating with the narrower instrument will find that he has more light, which is an important consideration in the use of any instrument in so small and delicate an organ as the ear.

* Through the kindness of Dr. James W. White, at White's Dental Depot, Philadelphia.

NOTES OF HOSPITAL PRACTICE.

NEW YORK HOSPITAL.

CLINIC OF DR. L. DUNCAN BULKLEY.

Reported for the *Philadelphia Medical Times.*

(Continued from page 156.)

CASE VII.—CAPILLARY VARICOSITY OF THE LEG.

THE next is a very important case, especially taken in connection with the preceding. This woman also has on her leg a lesion which I think almost any observer, from the appearances which it presents, would at first sight certainly pronounce syphilitic. It forms, therefore, one of those remarkable exceptions which we meet with in occasional instances, and to which almost every general rule is subject. On making a careful examination here, it is found that the superficial veins of the whole limb are in a marked varicose condition, and this patch upon the leg, so far from being of syphilitic origin, is simply the result of the same varicosity affecting the capillaries of the part. The brownish discolorations grouped together, which under ordinary circumstances would be regarded as characteristic of the stainings left by a tubercular syphiloderm, are here undoubtedly due merely to disintegration of the red corpuscles of the blood which has followed the rupture of the vessels. On the other limb we find the same marked varicose condition of the veins, and also similar patches above as well as below the knee, which might easily be taken as evidence of the syphilitic nature of the case. But she has not had syphilis; these stainings have never been preceded by any other lesion; they have long remained in their present condition, and are certainly not due to syphilis. I have seen several of these cases. The lesion is not described in the books.

CASE VIII.—ECZEMA CAPITIS OF CHILDHOOD.

In this little patient, two and a half years old, we see a well-marked instance of the ordinary eczema capitis of childhood. There is upon the head a generalized pustular eruption, which is very itchy; and if the firmly adherent crusts are removed, a moist exudation will be found beneath. In the present instance the trouble, as is so often the case, is not due to the presence of lice. The child is, as you perceive, of a decidedly strumous habit, which makes it peculiarly liable to skin-diseases; and in all strumous conditions these tend to suppuration. I will merely remark, in passing, that such a head as this is better treated by the use of cod-liver oil internally, externally, and, I was about to say, *eternally*, than by any other agent or agents with which I am acquainted. Arsenic would not do this patient any good.

CASE IX.—FADING PAPULAR SYPHILIDE.

The next patient I have to show you is a young woman upon whose person there is a general papular syphiloderm, which is, as you see, especially well marked upon the arms. It is now, however, rapidly fading, so that the color is not nearly so bright as it was a short time ago. Such an eruption as this belongs to the early stage of syphilis, and, while a stain is left after it, it never results in a scar. As in the present instance, it ordinarily covers the surface generally, and is apt to be particularly distinct upon the face and arms. It should never be mistaken for any other affection; and, indeed, the only disease that at all closely resembles it is *lichen planus*. I had hoped to have a case of the latter disease here to-day, to contrast it with the syphilitic eruption upon this patient, but have, unfortunately, been disappointed. My own practice is always to place such patients as this upon the "mixed treatment" (iodide of potassium together with mercury).

CASE X.—FAVUS.

Here is a boy of thirteen, who is the subject of the parasitic affection known as *favus* or *tinea favosa*. Upon his head are seen in a well-marked manner a few of the characteristic yellow cup-shaped crusts with one or two hairs in each, which are so typical of the disease. In the plate, however, which I now show you, and which I regard as a most important picture of the disease for you to remember in connection with favus, in our whole collection, the head is seen to have become almost entirely bald, and there are no cups whatever. This is the advanced stage of the affection, to which all cases tend to progress unless interfered with by appropriate treatment. In the present instance you observe that there are a number of spots upon the scalp almost entirely devoid of hair, and the complete destruction of the latter is the natural effect of the disease. The vegetable parasite, Achorion Schönleinii, feeds,

as you know, upon the epithelium elements of the skin, and penetrates in the root-sheaths, down through the entire depth of the hair-follicle, completely destroying them, and sealing it up hermetically, and putting at an end forever the reproduction of hair. When favus has once done its work of destruction it is utterly in vain to make use of even the most stimulating applications to the scalp; for, do what you will, hair will never grow there again. For this reason it is important for you to remember this plate showing the baldness, for it is often in this condition that patients will first come to you. The disease results in the formation of cicatricial tissue. Here are the spots which have been denuded of hair by it: the surface is quite rough to the feel, and there are a few stiff hairs still remaining. In these particulars, therefore, the affection is to be distinguished from *alopecia areata*, where the surface is smooth and the bald spots contain only a few downy hairs, if any at all. In this patient the favus has existed for a long time, and he also has a brother who has been affected in the same manner for a considerable period. As I before remarked, it has no tendency to cure itself or to terminate except with the complete destruction of every hair on the head.

In regard to the treatment of favus, I may say that there is only one way of making a cure, and that is a very tedious one, viz., by epilation. It requires great patience on the part of both the physician and the patient; and in this case, through the faithfulness of my assistant, Dr. Robert Campbell, and the perseverance of the boy himself, the case is gradually becoming cured. For eight long months now has the process been carried on, with intervals of only a day or two at a time. By epilation I mean the extraction, with a pair of forceps specially adapted for the purpose, of *every* hair on the affected part; and in the case of one young girl who had had favus for five years, Dr. Campbell actually removed more than *seventy thousand* hairs within a period of several months. It is a tolerably rare affection; but whenever you get hold of a case you will get great credit by its cure in this manner, although the process is necessarily such a tedious one. As soon as a number of hairs have been extracted, a solution of the bichloride of mercury, of the strength of from five to ten grains to the ounce, should be applied to the part by the physician as a parasiticide. This, as I remarked, is the only way of curing favus. Some time ago, Hughes Bennett thought he had discovered a specific for favus in cod-liver oil. In a few months after its apparent cure by this agent, however, it was noticed that the disease always came back. In the place of the bichloride of mercury other applications may be employed after epilation, if preferred, such as sulphurous acid, diluted citrine ointment, turpeth mineral, etc. This boy is now two-thirds well, and will be cured entirely before very long if the treatment is persevered in. But I must caution you and him not to stop the treatment too soon; the disease is very rebellious. Among the plates which I pass around, you will see some of favus of the epidermis, which is simply superficial in its growth and looks very much like ordinary ringworm (tinea trichophytina). Ordinary ringworm (of which I also show you representations), you must remember, is entirely distinct from favus. Here is a plate of great importance, which represents the parasite of the latter, Achorion Schönleinii, and in the pictures near it the two other vegetable parasites, trichophyton and microsporon furfur.

Before leaving the subject of favus, I will exhibit to you a specimen of it in the mouse, from which many cases originate. There is this difference between the disease in the mouse and in the human subject, however, that in the former it tends to cure itself, which, as we have seen, is not the case in the latter. This was illustrated in an experiment shown at the New York Dermatological Society some little time ago. A mouse suffering from favus was confined in the same cage with a number of others free from the disease. After a certain period had elapsed, it was found that a spontaneous cure had occurred in the case of the affected mouse, while all the others were now the subjects of the disease.

TRANSLATIONS.

EXPERIMENTAL RESEARCHES INTO THE ORIGIN OF SCROFULOUS AND TUBERCULOUS INFLAMMATIONS OF THE JOINTS.—Dr. Max. Schüller (*Cbl. f. Chirurgie*, October 26, 1878) says it is often observed what very slight injuries may bring about in some

persons the severest affections of the joints: a push, a slight blow, a fall upon the joint, is enough. The only explanation as to why such severe results should follow such slight injury in certain individuals is found in the supposition that some peculiar condition of the blood or tissues exists favorable to such changes. Whether this supposed condition of the blood and tissues, in persons usually called scrofulous or tuberculous, rests upon a change in the constitution of the essential tissues, or whether it depends upon the presence (by penetration, for instance) of foreign substances or organisms which may act as inciters of inflammation of a special sort, Schüller is not prepared to say. It has suggested to him, however, certain experiments, which he has performed as follows. Having taken a certain number of animals, either dogs or rabbits, he injected into the lungs through the trachea, or directly through the chest-walls by means of a hypodermic syringe, tuberculous sputa, bits of tubercular matter, and bacteria raised in Bergmann's solution. In a few cases he allowed the animals confined in closed chests to breathe an atmosphere saturated with these matters. After some time the animals were submitted to some slight traumatism of a joint, a contusion or a distortion of the knee. Smaller animals died in the course of the experiment, but the larger ones lived several weeks, and even two months. Most of the animals, however, were killed at an early stage of the experiment, in order to observe the earlier changes. Almost without exception, disease of the joint was observed,—granular growths in the synovialis, together with thickening of the entire joint. The cartilages were only clouded, but the bony portions of the joints were decidedly enlarged. They could be easily cut; the meshes of the spongiosa were wider and more full of blood. Centres of softening could not be observed macroscopically for a long time. "Control" animals wounded without previous infection by tubercle showed no such signs of disease. Injections of tuberculous material directly into the joint gave similar results. Schüller hopes in further experiments to examine into the condition of the joint at a later stage. x.

Treatment of Rheumatism with Benzoic Acid.—Senator recently read an article before the meeting of German physicians and naturalists on the treatment of rheumarthritis by benzoic acid. He was led to examine into the properties of this remedy, because, in spite of the great advantages possessed by salicylic acid, this cannot be given in the large doses necessary to a cure without the occasional production of disagreeable after-effects. In addition, salicylic acid occasionally fails. Finally, it would be much gained if some light could be thrown on the nature of the disease; for instance, if another antizymotic, like benzoic acid, should be found to act as well as salicylic acid. Senator has thus far used benzoic acid in twenty acute and ten sub-acute cases. The latter may be left out of consideration, since they offer such a poor chance for recovery. Benzoic acid was indeed tried faithfully in alternation with salicylic acid, but without success. In the acute cases, on the other hand, the effect of benzoic acid was so favorable as to offer great inducement to further trial. The chief advantage of benzoic acid appeared to lie in the fact that it produced no disagreeable symptoms, and that in the very cases where salicylic acid had disagreed, benzoic acid, in the same doses, cured the patient without any disagreeable after-effects. On the other hand, however, benzoic acid did not act so rapidly, nor did it produce the same rapidity of influence in lowering the temperature. Senator has found the same difference in this respect when salicylic and benzoic acids were compared together with regard to their influence in lowering high temperature in other diseases; but the fact that larger doses of benzoic acid can be used without fear counterbalances this slowness of action. The doses given by Senator vary from 8 to 12 grammes (℥ii ad ℥iij), or even more, daily. When he wants to gain a rapid decrease of temperature he uses salicylic acid temporarily.—*Wien. Med. Presse*, No. 41, 1878. x.

More about the Therapeutic Uses of Iodoform.—In addition to the article of Bernatzik, translated for the *Times*, December 7, 1878, we give the following contribution from Moleschott (*Cbl. f. Chir.*, No. 47, 1878; from *Wien. Med. Wochens.*). M. recommends an ointment of iodoform, 1 part to 15 simple ointment, or dissolved in collodion in the same proportion, against stubborn glandular enlargements. Lymphatic tumors the size

of one's fist disappeared in quite a short time by this treatment. In a case of lienal and myelogenic leukæmia, brushing the splenic region over with iodoform collodion did good service. In the same way, orchitides and enlarged and hard buboes in syphilitic subjects disappeared under treatment. M. gave iodoform at the same time internally in doses of .05 to 0.1 grm. (gr. ¾ ad 1½) several times a day. In addition, M. saw effusions into the pleura, pericardium, peritoneum, even into the arachnoidea, in fact, disappear after diligent painting on of iodoform collodion. In the same manner, severe ascites in a consumptive patient was relieved, diuretic pills, however, having been administered at the same time. Out of five cases of hydrocephalus acutus, three were cured by the external use of the remedy. One case of hygroma cysticum patellare disappeared after two weeks' treatment. In fungous inflammation of the joints, even in repeatedly recurrent tumores albi, the treatment was successful. Besides its discutient and absorbent qualities, iodoform is also anæsthetic, as is particularly shown in its influence upon gouty attacks. In acute and chronic rheumatism, however, iodoform exercises no anæsthetic influence. X.

THE OCCURRENCE AND SIGNIFICANCE OF SUPERNUMERARY BREASTS.—Leichtenstern (*Cbl. f. Chir.*, No. 47, 1878; from *Virch. Archiv*) has collected ninety-two cases of polymastia and polylutria from literature, and has added thereto twelve of his own. He does not regard it as a very rare anomaly. It occurs as often, though more rudimentarily, in men as in women. Ninety-six out of one hundred and five nipples occurred on the anterior portion of the thorax, five in the axilla, two on the back, one on the acromion, and one on the thigh. They were usually within and below the normal breasts, and were never on the median line. Rarely were there more than two. The frequency and regularity with which the supernumerary nipples were found situated as in mammalian animals have led L. to the conclusion that atavism, or an attempt to return to an ancestral type, had come into play. X.

INCONTINENCE OF THE PYLORUS.—Ebstein (*Wien. Med. Presse*, No. 41, 1878) gives a method of ascertaining whether or not the pylorus is pervious, which consists essentially in the introduction of the elements of Seidlitz powder in small quantity into the stomach. If the pylorus is impervious, as it should be, the stomach will become dilated and easily distinguishable by palpation. If, however, it is pervious, the intestines will become tympanitic along their whole course, and the stomach will be indistinguishable. A pervious condition of the pylorus ordinarily, though by no means always, depends upon cancer, and it is obvious that in the simple method of examination mentioned we have an addition to our means of diagnosis. Many a case, says Ebstein, has been diagnosticated hysterical tympanitis, which in reality was one of incontinence of the pylorus. X.

DIFFERENTIAL DIAGNOSIS BETWEEN EPITHELIOMA OF THE TONGUE AND TERTIARY SYPHILITIC GLOSSITIS, ACCORDING TO FOURNIER.—

Ulcerative lingual epithelioma.	*Ulcerative gumma of the tongue.*
1. Disease of adult age: maximum frequency between 50 and 70.	1. No particular age, but usually at a younger date than cancer.
2. Predisposing causes: hereditary cancer. No syphilitic antecedents (except by coincidence).	2. Syphilitic antecedents. No antecedent cancer(except by coincidence).
3. Frequent foregoing "lingual psoriasis."	3. No foregoing "lingual psoriasis."
4. History: appearance as a hard superficial node *externally;* then, more or less rapid surface ulceration. No opening or evacuation from the first of an abscess; no cavern.	4. History: appearance as a hard nodule *under* the surface, then sudden opening as of an abscess; temporary cavern, and soon after rapid ulceration, discovering the core of the tumor.
5. May occupy the inferior surface of the tongue.	5. Occurs exclusively on the dorsum and sides of the tongue; never on the inferior surface.
6. Lesion single and unilateral, with extremely rare exceptions.	6. Lesion sometimes multiple and bilateral.
7. Lesion, a tumor ulcerated on its surface.	7. Lesion, an ulcer, without a tumor in the strict sense.
8. Edges everted, with a raised border, unequal, irregular, excavated, etc.	8. Edges excavated deeply, sharply defined, adherent.
9. Surface bleeding spontaneously or on the slightest touch.	9. Bottom of ulcer shows a slough; no tendency to bleed.
10. Secretion abundant; in later stage fetid and ichorous.	10. Secretion slight and not ichorous.
11. Spontaneous lancinating pain in ulcer, sometimes darting towards ear.	11. Ulcer not spontaneously painful; no darting pains.
12. Functional troubles always marked (immovability of tongue, difficulty of speech, mastication, deglutition; salivation, etc.).	12. Functional troubles less marked than in cancer. Tongue not immovable, as in cancer, at least not to the same degree.
13. Lesion giving rise after a time to general symptoms of cachexia.	13. Lesion itself gives rise to no cachexia.
14. Microscopic examination shows the characters of epithelioma.	14. Microscopic examination shows the characteristics of degenerated gummy hyperplasia.
15. Ganglions affected after a certain time.	15. Ganglions intact.
16. Uninfluenced, or influenced unfavorably, by antisyphilitic treatment.	16. Antisyphilitic treatment beneficial.

—(*Jour. des Sci. Méd.*, 1878, p. 510; from *Lyon Méd.*) X.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 18, 1879.

EDITORIAL.

NATIONAL LEGISLATION IN REGARD TO PUBLIC HYGIENE.

A FURTHER continuance of the discussion in these columns of the need of national legislation in regard to Public Health seems to us unnecessary, because the need has come to be recognized everywhere by the profession and in most quarters by the educated laity. The problem of to-day is as to the form which legislation ought to take. In the outset of this new discussion it cannot be too strongly recognized that the matter involved is of the utmost importance. Most of the present so-called burning political questions will seem of less and less importance as time flies and they become more and more remote, but the influence of legislation upon the lives and health of this people will grow for good or for evil as the country advances in wealth and population and its inhabitants are more and more affected by luxury and poverty, by crowding and commerce. To the denizens of a scattered hamlet in the wilds it matters little what is done for the public hygiene; to the generations of a metropolis it means to many existence or non-existence, to all strength for labor and health for enjoyment, or feebleness with its poverty and distress. Then, again, as human relations become more complex and multifarious, as commerce, manufactures, epidemic, climatic, and territorial influences jostle in a continual whirl of contending forces, it is plain that it becomes more and more difficult to secure the proper regulation of the various interests so that no one shall from a hygienic point of view overcrowd another, and all shall with the least violence to each be brought into the completest hygienic harmony. When to these facts are added the peculiar character of our people, government, and country, and the little positive knowledge that we have concerning the matters involved, it is doubly apparent that of all things *hasty* legislation is to be *most dreaded*,—that bad laws will prove worse than no laws, and that a wise legislator will hesitate and take counsel of those most fitted to give advice, not only by knowledge and ability, but also by freedom from any possible personal interest.

Notwithstanding the magnitude and difficulties of the subject, however, the country is threatened with legislation which is not only of the crudest character, but is so evidently of personal origin and urged forward by a strong political or personal influence, that only a decided outspeaking of the profession can prevent what it would seem to us is worthy of being called a national calamity. On December 10 a bill was introduced into the Senate by Mr. Lamar, which, in order to save space, we print in another column. (See page 196.) A great objection to this bill lies in the fact that immediately and without consultation or experiment it creates an important new permanent department of the government, and gives to one man the settling of all the most complex questions in regard to public health; and this at a time when the general discussion has just reached the stage in which the question is settled that there ought to be some legislation.

The personal inspiration of the bill is evinced by its uniting in one person duties whose chief connection seems to be the personal results to which they will lead. The management of the Marine Hospital service has certainly no close connection with the acquiring and diffusing of hygienic knowledge, and, to our thinking, it is very doubtful whether either service would be the gainer by such union. The abolition of the position of the Supervising

Surgeon-General of the Marine Hospital service would naturally lead to the appointment of its incumbent as the "National Director of Health." Without intending to be in any way more personal than is absolutely demanded by the circumstances of the case, we feel required to state that the great mass of the thinking portion of the profession would at once recognize the unfitness of Dr. Woodworth for such a position. In his present office he does well, but to fill the proposed post with advantage would require a much higher and broader intellect than is necessary in the management of a mere hospital service or fund, or than Dr. Woodworth has given any evidence of possessing. Indeed, the difficulty of finding the proper man is one great objection against the bill.

In contrast with the bill just spoken of, we elsewhere print the essential portion of the memorial of the Public Health Association,—a memorial whose cautiousness and catholicity must commend it to every one. It is so complete and so convincing in its arguments that we do not propose to say much about it. It does, however, seem fitting to call attention to the fact that under its provisions in regard to appointments it is impossible to predict what the *personnel* of the proposed commission will be, and that therefore the proposal is free from any personal taint; further, that it is equally free from crudity, because it is only an attempt to decide what legislation is wisest, not to fix during our present ignorance a permanent measure only to be abolished after long trial and suffering. We trust, therefore, that our readers may take such interest in this subject as by letter or personal interview to make known to their representatives in both houses of Congress the merits of the question.*

* The following are the members of the committees to whom the bill has been or will be referred, and information should especially be furnished to them. *Senate Committee.*—Hon. I. G. Harris, Tenn.; Hon. Stanley Matthews, Ohio; Hon. L. Q. C. Lamar, Miss.; Hon. A. S. Paddock, Neb.; Hon. S. B. Conover, Fla; Hon. A. H. Garland, Ark.; Hon. J. B. Eustis, La. *House Committee.*—Hon. H. Casey Young, Hon. R. L. Gibson, Hon. C. E. Hooker, Hon. John Goode, Hon. Julian Hartridge,* Hon. Leopold Morse, Hon. J. A. Garfield, Hon. A. C. Harmer, Hon. S. B. Chittenden.

* Dead.

LEADING ARTICLES.

PROPOSED SUBSTITUTES FOR SALICYLIC ACID.

SALICIN—BORAX.

CARBOLIC and salicylic acid are not therapeutically free from objection, and consequently search is continually being made for a drug to replace them. There are several proposed substitutes which have in them sufficient of promise to warrant our calling attention to them and laying before our readers briefly the present state of our knowledge, especially with the hope that some will be stirred thereby to testing the value of these substitutes and giving through our columns the result. To-day we shall discuss salicin and borax; in our next issue, thymol and benzoic acid.

Salicin is obtained from the bark of the willow and other trees. It occurs sometimes in tabular crystals, more frequently in white, shining needles of neutral reaction, soluble in about thirty parts of cold water, very soluble in hot water and in alkaline solutions. Concentrated sulphuric acid dissolves it, with the production of a beautiful red color. By carefully warming it with dilute sulphuric acid it is converted into glucose and *saligenin*, and it is therefore a glucoside.

The action of salicin upon the animal organism is not known. It is certainly rapidly absorbed, probably as salicin; but once in the blood it seems to be rapidly decomposed, the products of its change appearing in the urine fifteen to thirty minutes after the ingestion of a single dose. This change does not appear to be complete, as, according to Husemann (*Pflanzenstoffe*, 963), in the urine of man and rabbits after the ingestion of salicin not only saligenin and salicylic acid but also unchanged salicin occur. Further, Falck, injecting salicin into the blood of the dog, found that it chiefly escaped from the kidneys unaltered. The elimination seems to go on slowly, as Senator has detected salicylic acid in the urine sixty hours after the ingestion of a single dose of salicin. (*Berlin. Klin. Wochens.*, 1877, 181.)

In 1874, Dr. Maclagan, led by some fancied dependence of rheumatism upon malaria, began the use of salicin in acute rheumatism, and in 1876 (*Lancet*, 1876, i. 342) announced that it was a specific remedy, rapidly abating both the fever and the local symptoms. In the same year (*Centralb. Med. Wissens.*, 1876, 241; also *Berlin. Klin. Wochens.*, 1877, 181) H. Senator confirmed these statements, and further affirmed that in various affections he had found salicin to have an antipyretic power entirely comparable to that of salicylic acid. If these views are correct, the freedom from irritant properties and disagreeable taste made salicin superior to the acid. The only person, other than those mentioned, who has tested the matter on a considerable scale, is Dr. Büss, who does not find that the drug is nearly so powerful as salicylic acid. (*Berlin. Klin. Wochens.*, xiii. 504.) If, as is believed by Senator, the activity of salicin depends upon its conversion in the blood into salicylic acid, it is plain that its action should be slower and more uncertain than that of the acid. Further investigations are necessary before any conclusion can be reached; but the later evidence does not seem to be so favorable to salicin as do the reports of Maclagan and Senator. In regard to the dose employed, it is worthy of remark that no serious symptoms have been reported as produced by salicin. Senator recommends two to two and a half drachms as a moderate dose for the adult. Maclagan used much smaller doses,—twenty grains every three hours.*

Borax has long been used as an application to aphthous and other ulcerated conditions of the buccal mucous membrane; but it has only very recently been suggested as an antiseptic agent. Concerning its poisonous influence upon the lower forms of life there can be no doubt. Sprinkled as a powder in cupboards, etc., it is very largely used by housewives to kill roaches, and seems to be the most effectual of all remedies against these pests. No trials have ever been made as to its power of killing lice, but its freedom from toxic and irritant action would make it a valuable remedy, if found as efficient against these as against other vermin. In 1874, Dumas and Schnatzles called attention to its action upon infusoria (*Pharm. Journal*, April, 1874), and in the experiments of Bucholz (*Arch. Exp. Path. und Pharm.*, Bd. iv.) it was found that 0.75 per cent. of it was enough to prevent the development of bacteria. Prof. Lister, Mr. Godlee, and others, in 1874 commended the use of borax in the ordinary method of antiseptic surgery, and in the *London Lancet* for May, 1876, Mr. Cane affirms that the best results are obtained by using a dry dressing of prepared lint made by saturating patent lint with a saturated solution of borax in boiling water. The wound being brought together in the usual way, this lint is simply secured tightly over it and the dressing allowed to remain undisturbed for several days before renewal. The trifling cost of borax, the simplicity of the method of using it, and its asserted freedom from irritant properties, demand very strongly a thorough testing of the claims set forth by Mr. Cane. In regard to the action of large doses of the borates upon either the human system or the higher forms of animal life, we have absolutely no knowledge.

* Consult also Ringer, Foster, British Medical Journal, ii. 1876; Brown, Boston Medical and Surgical Journal, February, 1877.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 14, 1878.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Tumor of the brain, involving portions of the first and second frontal convolutions, convolution of the corpus callosum, and corpus callosum. Presented by DR. CHARLES K. MILLS.

THE following case is worthy of study as a remarkable example of brain tumor, and it is also of special interest, owing to its situation, at this time, when the localization of cerebral functions and lesions is attracting such wide-spread attention.

R. D., æt. 35, a house-painter, was admitted to the Philadelphia Hospital, September 16, 1878. He was an active local politician, and for a few years had been intemperate. Six years before coming under observation he had had a chancre, which was not followed by secondary symptoms. Fifteen months before, while intoxicated, he had fallen from a high doorstep to the street, striking on his head. He was first known to be sick about two months subsequent to this accident, when, after a spell of heavy drinking, he was attacked with vomiting and severe headache.

After this his health began steadily to decline. For about nine months before coming under my care he was an inmate of the Pennsylvania Hospital. Some facts of interest in regard to his previous history were obtained from his friends, as follows:

He suffered from persistent headache, aggravated at night. He had apparent loss of power in the limbs, particularly of the left side. His sight gradually failed, until he became blind, first in the right eye, and afterwards in the left. Mental hebetude and uncertainty, with some tendency to hallucinations, had been observed. Spasmodic contractions, especially in the muscles of the neck, forearm, and eyes, had been noted by some of his physicians. Oscillation of the eyeballs, or nystagmus, had also been a symptom. He had had involuntary discharges. Some interesting negative points were the following: vomiting had never recurred; he had not had marked fever; he had no history of aphasia, vertigo, or convulsions; and no paralysis of the muscles supplied by cranial nerves had ever been present.

After admission to the Philadelphia Hospital he was carefully examined by me on a number of occasions. He usually lay in a fixed position on his back, his head thrown backwards, and his face looking upwards and forwards. He was not emaciated, the muscles generally being in fair condition. Fæces and urine were passed involuntarily. His bowels, however, usually remained closed for two or three days; but when opened, he did not appear to be aware of the fact. He would eat and drink at any and all times, and was never satisfied. None of the facial muscles were paralyzed. He protruded his tongue, which was red and corrugated, in a slow and hesitating manner. Smell was defective, but taste seemed to be preserved. He was blind, and suffered considerably from ocular trouble.

Dr. E. O. Shakespeare, ophthalmologist to the Hospital, was called in to examine and care for his eyes. Through his kindness, I have the following report: "At my first examination the condition of the patient's eyes was as follows. Both eyes were wide open. He had no perception of light. The movements of the lids and balls were preserved. The bulbar conjunctivæ were very slightly injected, the corneæ clear. The pupils were moderately and symmetrically dilated; they did not respond to varying quantities of light. The sensibility of the corneæ was possibly a little lowered. The ophthalmoscope determined the media to be clear, the outline of the papilla in each eye to be invisible, and the discs to be greatly swollen and of an opaque, yellowish-white color. The surface of the latter, and of the surrounding retina, was spotted with numerous minute linear and punctate hemorrhages. The arteries of the disc and retina were a little smaller than normal, and wavy in their course, here and there curving down among the opaque fibres and becoming invisible. The veins were very full and tortuous; they also were frequently lost to sight where they plunged deeply into the opaque nerve or retina. Great difficulty was experienced in getting a view of the fundus, on account of the movements of the eyes and the head of the patient, who had to be examined while in the recumbent posture. For these reasons the prominence of the optic papillæ could not be measured.

"Ten days after the foregoing notes were taken, the central corneal epithelium of the left eye became hazy, the whole bulbar conjunctiva much congested. This condition soon developed into a severe superficial corneitis, which was mainly limited to a central area of an extent about equal to three-fourths of the diameter of the cornea, which threatened to slough, a narrow peripheral ring of the cornea being comparatively unaffected. At the same time the engorgement of the bulbar conjunctiva increased. The sclera, the iris, and the deeper parts were apparently not involved in the inflammatory process. The progress of the keratitis was kept pretty well under control by the use of atropia, of a hot chamomile poultice applied for fifteen minutes every four hours, and of a compress-bandage during the intervals. The condition of the right eye had not visibly changed since the first examination."

I have nothing to add to these notes of Dr. Shakespeare, except that the eyes remained in about the same condition described in the latter part of the report until the death of the patient.

He retained all movements of both hands and arms, but they were wanting in strength and accuracy. The left arm and hand were weaker than the right. With the left hand he marked 5° on Mathieu's dynamometer, with the right 25°; but these numbers probably did not represent with exactness his grip, as he could scarcely be made to understand what was desired of him. He frequently carried both hands to his forehead, and he was sometimes found fumbling with one or both about the penis or scrotum. His legs were usually kept extended and motionless, but sometimes they were found drawn up, with the thighs semiflexed on the body, and the legs on the thighs, when they could only be straightened with difficulty. I could not succeed in making him kick or perform any movements with his legs or feet, although they would sometimes move as if by accident. On taking hold of them, and attempting flexions, extensions, etc., he would appear to resist such exertions with much force. Farado-contractility was retained.

Sensation did not appear to be affected, although exact determinations were difficult, owing to the patient's condition.

The psychical manifestations were among the most important features of the case. Al-

though comparatively uneducated, he had been when in health intelligent and energetic. He had never during his illness had the gay humor or delirium of grandeur seen in the general paralysis of the insane. His condition, on the whole, was one of intellectual slowness and uncertainty. He seemed to have great difficulty in receiving mental impressions and in directing the movements of his body. His faculty of attention was, in great measure, destroyed. It could only be fixed, and then but partially, by distinctly and vehemently repeating a question or command. He could hear, but it was necessary to make a tremendous external impression on his sense of hearing in order to call out a mental response. He sometimes appeared to me like a man dazed by a great catastrophe which he could not understand.

He was not aphasic, although he manifested certain striking peculiarities of speech, or, rather, of the manner of speaking. What he said, either spontaneously or in answer to questions, was spoken clearly and distinctly, and in a firm, loud voice. His sentences were short, but complete; neither words nor syllables were omitted; and he made no mistakes in articulation, enunciation, or pronunciation. In answering he did not seem to be able to retain for any length of time a hold upon the same idea or to follow a particular train of thought. He did not wander from one subject to another, but he would suddenly stop speaking, as if unable to go further. Often on being questioned he would try to reply, and, after a sentence or two, would sob and burst into tears like a violently hysterical woman. He would at times have what might be termed volcanic outbursts of speech. When all was perfectly quiet in the ward, he would suddenly explode with a sentence or two, and then again subside into stillness. Exclamations of this kind might be repeated at intervals of a few minutes for hours together, or they might recur only at intervals of hours. Sometimes what he said would be connected with some past events of which he seemed to have a vague recollection; often it would be a demand for something to eat or drink; and often, again, it would be a paroxysm of profanity.

His pulse ranged, for the most part, between 78 and 100, varying with the temperature, which will be referred to hereafter.

In regard to treatment I will be very brief. The fact that the man was doomed was, of course, at once recognized. He had before coming into my hands been treated heroically, but without avail, with iodide of potassium. My efforts were directed particularly to making him comfortable,—to relieving his headache, quieting his mind, preventing bedsores, and caring for his eyes. Blood was taken from the temporal regions by means of leeches. Bromide of potassium was used in large doses. Cannabis indica, both in the form of tincture and alcoholic extract, was administered. Morphia was also employed at intervals. Solutions of sulphate of atropia were chiefly relied upon in treating the inflamed eyes.

He gradually grew weaker and less demonstrative, and died quietly, apparently from exhaustion, October 16, 1878.

A post-mortem examination was made six hours after death. The body was not emaciated. No external appearances of interest were noted, except an opacity of the left cornea. No abnormalities of the skull, or of the soft parts covering it, were discovered. A large quantity of blood poured from a point just anterior to the middle of the longitudinal fissure. The cerebral veins and sinuses were filled with blood. Superficially everywhere were evidences of true congestion.

Looking at the brain from above, a large, bloody-looking tumor was seen lying obliquely across the right frontal lobe, in a direction from before backwards and from without inwards. It was so situated that it had involved and destroyed, in its process of growth, the anterior upper half of the first frontal convolution, and the anterior upper and inner half of the second frontal. It had also removed a small segment of the gyrus fornicatus, or convolution of the corpus callosum just where it bends around the genu of the corpus callosum; and, finally, a low stratum of the tumor had invaded the anterior portion of the corpus callosum itself, for a distance of half an inch, the diseased mass barely touching the inner side of the gyrus fornicatus of the opposite hemisphere.

The tumor was overlapped towards the outside and posteriorly by portions of the first and second frontal convolutions, and it did not, therefore, encroach upon either the third or the ascending frontal convolution. Its greatest height was at about the line of the upper frontal fissure, which separates the first and second frontal convolutions, where it was on a level with the surface of the convolutions of the opposite side. The hemispheres were thrust widely apart, especially towards the front. The membranes over the tumor were destroyed. On turning the brain over, and examining the base, no signs of the growth could be found. The contours of the gyrus rectus, or first frontal convolution below, and of the second and third convolutions inferiorly, were preserved.

On closely examining the tumor after removal from the brain, it was found to have an irregularly nodulated or lobulated surface and pyriform shape, its small end constituting the part which had extended to the anterior part of the corpus callosum. On making a central incision lengthwise, it was found to be very firm, dense, and resisting, and the cut surface presented a mottled, reddish appearance. It measured three and one-half inches in length, by three inches in width and two and one-half inches in depth.

No evidences of meningitis were found, although the pia mater was somewhat injected, especially near the tumor. Nothing abnormal was discovered in connection with any of the cranial nerves, except the optic, which will be referred to later. The lateral ventricles and the fourth ventricle contained a few drops of blood. The choroid plexus and vessels of the velum were engorged and of a dark-red color. The corpora striata and optic thalami, particularly of the right side, were congested, vessels standing out very prominently. The tubercula quadrigemina were red. The brain, as a whole, was firm and consistent. It weighed, including the tumor, the unusual amount of sixty-two ounces. The weight of the tumor was seven ounces. The pons, medulla oblongata, cerebellum, and parts of the brain not mentioned above showed nothing abnormal. In comparison with the general cerebral mass, the cerebellum was smaller than usual.

As circumstances which could not be controlled rendered it necessary to perform the autopsy in a limited time, a careful general examination of the body could not be made. The lungs, however, were found to be healthy, and the heart large and surrounded by an unusual amount of fat, but it showed no valvular lesions.

A fragment of the tumor, and the eyes, which were carefully removed, were referred to Dr. E. O. Shakespeare. Sections of the tumor were also examined by myself.

Dr. Shakespeare made the following report:

"Thin sections of the tumor, after staining with carmine and mounting in glycerin, when placed under the microscope showed a ground formed entirely of bundles of white fibrous tissue running in various directions. The small quantity of loose connective tissue between the bundles exhibited an abundant infiltration of embryonal cells. Between and upon the fibres constituting the bundles, the flat cells normally found in such position were in a slight state of proliferation. They were rather more numerous and were more swollen than usual, but when seen in profile they appeared thin and spindle-form, and when viewed in face they were seen to be flat. The blood-vessels were not numerous; their walls preserved a greater abundance of cells than do those of normal tendinous tissue. The growth in question was, therefore, a *fibroma*, whose tissue was in a state of hypernutrition, that is, that of irritation or increase.

"Microscopical examination of the pons and medulla oblongata determined unmistakably the presence of degenerative changes, chiefly sclerotic.

"Sections of the outer half of the cornea of the left eye, made vertical to the surface of the cornea, proved the ciliary body and iris to be normal; as was also the sclera, excepting that the vessels which form an anastomosis near the rim of the cornea, between the vessels of the sclera and those of the conjunctiva, were slightly engorged. Those of the conjunctiva were greatly engorged, and the conjunctival connective tissue near the vessels was the seat of a slight cell increase. A small distance within the rim, the cornea revealed a loss of the anterior layers of the epithelium. The deep layer of cylindrical cells was ruptured here by a line, two or three rows deep, of embryonal cells and pus-corpuscles. The corresponding anterior layers of corneal fibrous tissue were softened, and their corneal spaces were occupied by two, four, or more embryonal cells in a state of fatty degeneration. The posterior layers of corneal fibres were apparently not invaded by the morbid process.

"Sections from the posterior part of the eye, at the entrance of the optic nerve and parallel with its axis, showed the sub-vaginal space much widened, and only partially filled with the loose cellular tissue usually found in it. This tissue was in a state of active cell proliferation. The optic papillæ were greatly swollen, and their surface was far anterior to the normal level of the discs. The capillary vessels of the discs and the adjoining retina were much more numerous than usual, and were dilated. Their walls and the interfibrillar connective tissue were much more richly supplied with small cells than when in the normal condition. Numerous blood-extravasations were visible. In short, the sections presented those appearances usually encountered in choked disc."

Remarks.—This case may possibly afford some assistance in the solution of the question of the functions of the antero-frontal lobes. Pathology and physiology have not contributed much that is satisfying in regard to this region. In Dr. Bigelow's often-quoted "crow-bar case," a bar of iron passed through the left frontal region of the brain, and, it is said, without leaving any special symptoms. Trousseau, according to Ferrier ("Functions of the Brain," p. 125), relates the case of an officer who was shot through the head by a bullet, which traversed the anterior part of the brain, and who yet sustained little or no apparent damage bodily or mentally. The *London Medical Record* for April 15 and June 15, 1877, contains a résumé by Ferrier of a paper by Charcot and Pitres on cerebral localization (*Revue Mensuelle de Médecine et de Chirurgie*, January, 1877), in which reference is made to some cases of lesions of the antero-frontal districts, the regions chiefly of the first and second frontal convolutions. Speaking of the occurrence of wounds of the brain without causing either paralytic or convulsive phenomena, they refer first to the American crow-bar case, and to two similar cases of their own. A case was reported by M. Marot to the Société de Biologie, in which, as the result of a fracture of the right frontal bone, the upper part of the first right frontal

convolution was lacerated. The patient died of pyæmia, without having exhibited motor symptoms. In a case of M. Baraduc's, both frontal lobes were greatly disorganized, the patient losing will-power and spontaneity, going about in a purposeless manner. In a case of Charcot and Pitres, a clot the size of a nut was situated on the second right frontal convolution, and caused no motor symptoms. In still another, recorded by Andral, softening of the orbital lobule caused general feebleness and defective intelligence, but left motion and sensation intact. From these cases Charcot and Pitres conclude that destructive lesions of the antero-frontal region may exist without producing the slightest motor disturbance. They also note that these lesions cause no secondary degeneration of the spinal cord.

The size, character, and well-defined limits of the lesion recorded in this paper, with the somewhat full clinical history, render the case on the whole, I believe, one of great value in this discussion of the functions of the antero-frontal lobe.

Much general disturbance of the brain, and compression of parts not affected directly by the tumor, may have been produced by the growth; but, even admitting this, peculiar phenomena, depending upon the position of the mass and the destruction of convolutions caused by it, must, I think, have been present.

Ferrier ("Functions of the Brain," p. 230), in his experiments on the antero-frontal regions of the brain of the monkey, generally obtained negative results. Electrical irritation usually caused no special manifestations. Removal or destruction was not followed by any definite physiological results. The animals operated on, however, while not actually deprived of intelligence, had apparently lost the faculty of attentive and intelligent observations. When considering the hemispheres psychologically, Ferrier argues also that the power of fixing the attention and concentrating consciousness depends on inhibition. He shows that if the centres of inhibition, and thereby the faculty of attention, are weak, or present impulses unusually strong, volition becomes impulsive rather than deliberate,

It will be observed that the case whose history I have just given presented more pronounced symptoms than those reported by the writers whom I have quoted. The phenomena of the case, however, are to a great extent in accord with those of the cases mentioned, and also with the results of physiological experimentation. Loss of will-power, interference with the faculty of attention, and general feebleness of mind and body, were symptoms presented by my case in common with those recorded by others. Mental impressions were hard to fix, and he could not pursue any train of thought. As we sometimes say, "it took an idea a long while to get into his head." He was emotional and passionate; he spoke and acted impulsively; his voice was loud and monotonous. Such manifestations as headache and choked disc, which may belong to tumor anywhere within the cranium, need not here be considered.

The real or apparent motor-paralytic phenomena exhibited by this case would seem at first sight to separate it from the cases of Charcot and Pitres, and others. His bowels and bladder were opened involuntarily; his legs were usually motionless; both arms, and particularly the left, were weak. I believe, however, from a careful study of this patient's symptoms, that the more or less passive state of motor organs was probably not due to a rupture of the communication between the periphery and actual motor centres, or to a destruction of the latter, but rather to a restraining influence exerted upon these centres by impressions coming from another portion of the brain. In other words, the paralysis, so far as it existed, was inhibitory-motor, and the case points to the probable presence of inhibitory-motor centres in the first and second frontal convolutions.

It must be remembered, in studying this case, that the destruction of brain-substance caused by the tumor was only in one frontal lobe, and that here it was not complete, even as regards the first and second convolutions, the posterior portions which probably establish communication with the true motor centres of the cortex remaining uninjured. A constantly growing mass, inflamed and inelastic, situated among but not entirely destroying inhibitory-motor centres, was an ever-present irritant of the most positive character, from which mandatory impressions were sent by conducting channels still intact to centres of actual motor execution. Movements still retained may have been partly reflex, and partly due to certain inhibitory-motor areas remaining unharmed.

So far as I know, satisfactory experiments have not been performed, and we have no pathological data of value bearing upon the question of the functions of the gyrus fornicatus or convolution of the corpus callosum, an anterior segment of which was destroyed by the tumor. According to Ferrier (p. 145), stimulation of the gyrus fornicatus by slipping insulated electrodes deeply into the longitudinal fissure failed to produce any outward manifestation. Ferrier's experiments on the corpus callosum, which was also invaded by the growth, were likewise negative. The corpus callosum is usually regarded as a system of commissural fibres, connecting corresponding regions of the two hemispheres. The apparent partial involvement of both sides of the brain, as indicated by some of the symptoms during life, may have been, to some extent, due to the lesion of the corpus callosum.

As already stated, in the experiments of Ferrier electrical irritation of the antero-frontal lobes usually caused no manifestations, but, in an isolated instance, move-

ments of the eyeballs, sometimes laterally and sometimes upwards, were produced. I refer to this exceptional effect in connection with the case, from the fact that the patient was troubled with nystagmus.

The fact that the *left* eye became so violently inflamed during the last month of the patient's life claims attention, but I have at present no views to advance in regard to the matter. The tumor, it will be recalled, was in the *right* frontal lobe.

The heavy fall upon the head which the patient received may have had something to do with the origination of the growth, but as to this we can only conjecture.

Fibromata of the brain are rare forms of tumor, and we know but little as to their cause.

In regard to the localization of this tumor before death, the fact that the cranial nerves were not involved would go far towards excluding the base of the brain. Lesions of the corpus quadrigeminum or cerebellum would perhaps, on the whole, cause symptoms most closely allied to those presented.

In regard to the former, a tumor would not be likely to be limited to this body, and involvements of neighboring parts would have given more distinctive sensory and motor symptoms. Hemiopia, and those peculiar disorders of movement which have led some physiologists to locate the muscular sense in the corpus quadrigeminum, were, so far as I could ascertain, never observed.

Cerebellar ataxia, or titubation, which, according to Nothnagel (*Berliner Klinische Wochenschrift*, April 15, 1878), is the only characteristic symptom of disease of the cerebellum, was not present. It was thought by his friends that he exhibited some tendency to fall backwards just before he was compelled to go to bed entirely; but even this could not be clearly made out; and, as Nothnagel has shown, it is a symptom oftener absent than not. Headache, disturbances of the eyes, choked disc, imperfect paralysis, and the early nausea and vomiting might have been present in tumor of the cerebellum or of various other regions. In excluding cerebellar disease I would incline to lay most stress upon the absence of cerebellar ataxia and the peculiarities of the psychical manifestations. Mental disturbance may be caused by a tumor in the cerebellum, but does not present any distinctive features, while, on the other hand, tumors of the antero-frontal lobes will, I think, be found—if the cases be studied carefully—to give intellectual symptoms of a tolerably constant character. The importance of an exact and systematic study of psychical phenomena in localizing cerebral lesions is greater than we usually suppose.

Observations were made both in general and in local or cerebral thermometry.

The following were the morning and evening temperatures, taken in the axilla, during the four weeks preceding his death:

Sept.	18,	morning,	98.6°;	evening,	99.9°.
"	19,	"	97.8°;	"	100°.
"	20,	"	97.8°;	"	98.3°.
"	21,	"	98°;	"	99.8°.
"	22,	"	98°;	"	97.5°.
"	23,	"	97°;	"	99.1°.
"	24,	"	98°;	"	98.9°.
"	25,	"	99°;	"	100.8°.
"	26,	"	98.5°;	"	99.1°.
"	27,	"	97.4°;	"	99.6°.
"	28,	"	98.3°;	"	99.9°.
"	29,	"	97°;	"	99.4°.
"	30,	"	98.7°;	"	99.4°.
Oct.	1,	"	97.8°;	"	99.5°.
"	2,	"	98°;	"	99°.
"	3,	"	98.4°;	"	100°.
"	4,	"	97.6°;	"	99.4°.
"	5,	"	98°;	"	99°.
"	6,	"	99.7°;	"	101°.
"	7,	"	99.2°;	"	98.1°.
"	8,	"	98.8°;	"	101°.
"	9,	"	99.3°;	"	100.9°.
"	10,	"	101°;	"	101.8°.
"	11,	"	99.7°;	"	101°.
"	12,	"	99 4°;	"	99.6°.
"	13,	"	99.3°;	"	101°.
"	14,	"	99°;	"	100°.
"	15,	"	100.3°;	"	100.4°.

I shall give these observations on general temperature without lengthy comments. I have no special knowledge of thermometric investigations in cases of tumor. It will be noticed that on fifteen days the morning temperature was below the standard of health, and also that almost always the evening temperatures were higher than those of the morning.

Physiological experiments performed by Eulenberg and Landois (*Centralbl. f. Med.*, 1876, p. 260), and by Hitzig (*Centralbl. f. Med.*, 1876, p. 323), indicate the presence in the cerebral cortex of heat-controlling centres. These centres, however, were found, not in the antero-frontal districts, but near the crucial sulcus of the dog, which corresponds to Rolando's fissure in monkeys and man. They were located pretty definitely in the well-known motor regions in the ascending convolutions. In general terms, destruction of the thermic area caused elevation and irritation produced lowering of temperature in the opposite extremities. When, in the experiments of Eulenberg and Landois, irritation with strong induced currents was continued for a long time, constant temperature-reduction could not be obtained, irregular oscillations ensued, and sometimes even a small temperature-increase would take place, lasting, according to circumstances, for a shorter or longer period. Whether the lowering and irregular oscillations of temperature in this case of tumor were produced by general cerebral disturbance, or by the effect of pressure upon the not remote heat-centres, I merely present as a question for consideration.

Six stations on the head were selected, and local temperatures were carefully taken under my direction, on seven successive days, from September 23 to September 29, by Dr. Thompson, one of the resident physicians at the Philadelphia Hospital. The instrument used was Seguin's surface thermometer. The observations were made between the hours of three and five in the afternoon. The points or stations at which the temperatures were taken were as follows: 1, a middle frontal station, in the centre of the forehead; 2, a middle occipital station, in the centre of the occipital region; 3, a right frontal station, near the external angular process of the frontal bone; 4, a left frontal station, similarly located on the left side; 5, a right parietal station, above the right ear; 6, a left parietal station, above the left ear.

The results of the observations are given in the following table, in Fahrenheit degrees:

	Middle frontal station.	Middle occipital station.	Right frontal station.	Left frontal station.	Right parietal station.	Left parietal station.
September 23,	95°	94.1°	95°	93.2°	94.1°	93.2°
" 24,	95	94.1	93.2	94.1	91.4	93.2
" 25,	98.6	95 9	96.8	95.9	96.8	95.9
" 26,	96.8	95.9	95	95	95	95.9
" 27,	96.8	95.9	95	94.1	95	94
" 28,	96.8	96.8	95	95.9	96	95
" 29,	96.9	96	95	95	95	94
Average temp.	96.5	95.5	95	94 7	94 7	94.4

The temperature of the room during these observations was kept at about 70°. The axillary temperatures ranged between 98.9° and 100.8°, averaging about 99.5°. Examination of this table shows several points of considerable interest, before referring to which, and in order that they may be more clearly understood, I will allude briefly to the general subject of cerebral thermometry.

In 1877, M. Broca laid before the French Medical Association at Havre the results of some investigations on the temperature of the surface of the head in health and in disease, an abstract of which was published in the *Lancet* for October 20, 1877. Observations were made on twelve individuals, and temperatures were taken on different regions,—frontal, temporal, occipital, etc. Some of his results in healthy individuals were as follows: maximum temperature of the head, 94.73° F.; minimum, 91.04°; giving a mean of 92.87°. The thermometers applied on the left side invariably registered higher than those of the right, when those examined were in the resting state. The frontal region gave an average temperature of 95.5°; the temporal, 92.69°; and the occipital, 91.25°. He also reports the results of some observations on cases of embolic hemiplegia.

At the meeting for 1878 of the American Neurological Association, Dr. Landon Carter Gray, of Brooklyn, read a paper on *Cerebral Thermometry*, an abstract of which appears in the *Journal of Mental and Nervous Diseases* for July, 1878. His right and left frontal and parietal stations were the same as those selected in my observations. Occipital stations were taken on each side of the occiput, and four vertical stations around the fissure of Rolando. I will give some of Dr. Gray's conclusions. He found the average temperature of the left frontal station to be 94.36°; of the right, 93.71°; of the left parietal, 94.44°; of the right, 93.59°; of the left occipital, 92.66°; of the right, 91.94°. Alterations of more than 1½° he looked upon as suspicious of abnormal change at the point where the temperature was taken; more than 2° he considered strong evidence of such change. He mentions a case of glioma located during life by the thermometer, the autopsy confirming the determination.

Comparing the observations made on the case reported in this paper with the results obtained by Broca and Gray, we note several facts of peculiar interest. The temperatures generally were higher than those obtained by Broca and Gray on the heads of healthy subjects. The average temperature of the *right* side of the head, as determined at the right and left frontal and parietal stations, was slightly higher than that of the left, the latter in health being usually the higher. The highest average temperature was that obtained at the middle frontal station, which, from the location of the tumor in the anterior inner part of the right frontal lobe, would probably be, of the points taken, the one most closely related to the intra-cranial growth. The mean temperature of the right frontal station, which was next in proximity to the tumor, was also slightly higher than the temperatures of the other lateral stations. The average of the middle frontal station was nearly four degrees higher than that of the whole head, which, according to Broca, is 92.8°, and according to Gray, 92.6°. On one day, September 25, this region gave 98.6°. The middle occipital temperatures were also high, the mean of the seven observations coming next to the middle frontal. The fact of the patient constantly lying in one position on his back, and also that the occipital station corresponded nearly to the confluence of the sinuses in a congested brain, may have had something to do with this result. In the observations of Broca and Gray, the occipital temperatures, taken laterally, were lower than the frontal and parietal. On the whole, I believe that the observations on this case show that we can attribute a positive value to local thermometry in the regional diagnosis of intra-cranial tumors. The in-

ference would seem to be that, in cases like the one here reported, the temperature of the surface near the seat of the growth is higher than that of other regions. The average temperature of the middle frontal station was 1½°, or more, higher than that of other stations, except the occipital, and it was even 1° above this. The temperature of the side of the head in which a tumor is located would also appear to be greater than that of the other side. In Broca's observations on embolic hemiplegia, he found the temperatures lower over the territories supplied by the occluded vessels, this being probably due to the anæmia here produced, and to the compensatory hyperæmia in the other regions. In cases of tumor we have hyperæmia and inflammation most marked in the side of the tumor.

Tumor of the brain. Presented by Dr. J. T. ESKRIDGE.

I am indebted to Dr. Henry W. Rihl for the clinical history of the following case.

"From Wm. S., æt. about 44, married, below medium height, with large head and broad shoulders, having a weight of about one hundred and eighty pounds, I obtained the following history. He had been for several years free from sickness of any kind, although he had several severe falls on the head in the past year, and, on close questioning, admitted having had a recent chancre, which was followed by secondary symptoms a few weeks before I saw him, but positively denied ever having had a previous attack of syphilis. In the latter part of April, 1878, he was troubled with headache, for which he consulted several physicians; he, however, was not confined to his bed till a few days before my first visit, June 25, 1878.

"He then complained of great headache (worse anteriorly, and most intense, when present, throughout his illness, in the right supraorbital region), obstinate vomiting, some giddiness, frequent attacks of hiccough, and inability to sleep well.

"The thermometer in the axilla throughout his sickness showed no increase of temperature. Under treatment, his headache subsided, to recur only occasionally, sleep returned, and nausea, vomiting, and hiccough ceased.

"Ten days after my first visit, Dr. Da Costa saw him in consultation with me. He then, or soon after, had less power on the left side than on the right, though the right seemed to be below normal; locomotion soon became difficult; he was unable to walk or sit without some support, was slow in his answers, and indisposed to talk. Dr. Da Costa, on the fifth day after he first saw him, detected choke-disk, and pronounced it a case of pressure of the brain, produced either by a tumor or by meningitis. Dr. Da Costa saw him till about the thirty-second day of his illness, when he had a mild dementia, being possessed with the idea that he was away from home.

"About the forty-first day of his sickness, after a two weeks' absence, I again saw him, and Dr. Updegrove, who had visited him in my absence, thought he had fever part of the time, though he did not use the thermometer. In some respects there was at this time marked improvement. Previously to my absence he had been troubled with involuntary evacuations. These had now ceased, and he could walk across the room with but little aid; his mind was now comparatively clear; there was no stupor; he began to be anxious about his condition, and to inquire concerning his business, which he had not done almost from my first visit in June.

"While these symptoms were more or less favorable, about this time others of a less favorable character arose. His headache, which had ceased for several weeks, again tormented him, sleep was poor, and his vision rapidly grew dimmer and dimmer, till about the sixty-fifth day of my attendance—fifty days after Dr. Da Costa had detected choke-disk, and three weeks after he first complained of dimness of vision—he was completely blind.

"His urine, in the commencement of his attack, contained an abundance of phosphates, and early in September it was very copious, and so continued till near his death. He passed, according to his wife's statement, four chamberfuls per day. September 15 its specific gravity was 1003; it was then almost colorless. September 25 the specific gravity was 1005. On the last date, and again on October 7, Dr. S. Weir Mitchell saw him with me. The improvement in locomotion which had occurred a few weeks previously only lasted a short time, and his mental condition, though less favorable, never became so bad as it had been at the beginning, till within a few days of his death, when he fell into a profound stupor, and his evacuations again became involuntary, but his appetite remained good throughout his disease, and was at times ravenous.

"During the last few weeks of his illness his head was inclined to the right side, and an attempt to carry it to the median line, or beyond this to the left side, gave rise to considerable pain.

"He died quietly, October 11, 1878.

"*Autopsy*, thirty-four hours after death, was made by Dr. Updegrove and myself. The body was very fat, and contained considerable adipose tissue. The skull-cap, over the right supraorbital region, was nearly twice as thick as usual. *Brain and its coverings.*—The dura mater, over the anterior portion of the right parietal lobe, and over the posterior portion of the right anterior lobe, was greatly thickened and firmly adherent to the bony surface above it. On removing the dura mater, a small, yellowish, softened mass of brain-substance, about the size of a hickory-nut, was found in the upper portion of the ascending parietal convolution of the right side. The

remaining convolutions of the upper and convex surface of the brain seemed healthy. The arteries and veins at the base of the brain appeared normal, as did also the whole of the left hemisphere, both at its base and in its substance. The base of the temporo-sphenoidal lobe and posterior base of the anterior lobe of the right side were decidedly softened. This portion of softened brain-substance was about the consistence of an ordinary poultice, and would ooze between the fingers on removing the pia mater. On cutting into the temporo-sphenoidal lobe of the right side from below, a large cavity or abscess, containing about an ounce of yellowish serous fluid, was found extending upward into the substance of, and scooping out the base of the ventricular portion of, the right corpus striatum, thalamus opticus, and encroaching upon the anterior portion of the internal capsule. There were several other smaller cavities in the anterior portion of this lobe, all apparently communicating with the main cavity. To the outer side of and above this large cavity there was a tumor of considerable size buried in the white substance of the right parietal and frontal lobes, but not, so far as I could detect, involving the convolutions of the anterior lobe, but involving the ascending parietal. Another small abscess was found at the base and posterior part of the right anterior lobe. A small cystic tumor was found on the choroid plexus of the posterior cornu of the left lateral ventricle, and a larger and a smaller one were found on the choroid plexus in the posterior cornu of the right lateral ventricle. The largest of these cystic tumors was nearly the size of a small hickory-nut, the smallest, that of a pea. Remaining portions of the cerebrum, the cerebellum, pons, and medulla appeared healthy to the unaided eye.

"*Chest and Abdomen.*—Both lungs congested; heart healthy; kidneys smaller than usual, and the left contained a calculus. Spleen-substance, with exception of containing a small whitish body, appeared healthy; liver healthy."

Microscopic Examination of the Tumor, by Dr. L. B. Hall.—"The tumor consists of spindle-shaped cells with nucleus and nucleolus. Some of the cells are elongated, forming bands or trabeculæ surrounding the shorter or more nearly round cells. From the structure of the sections I have made, it is a sarcoma, and not a glioma."

Dr. Rihl, in a note to me, states, "Though some of his friends thought they had noticed a change in his temper—being morose and irritable—for nearly a year prior to his illness, yet I was unable to detect it, although I saw him quite frequently." He also states, "The rapidity of its course and the polyuria were marked features of the case, the latter being, so far as I can discover, not a usual symptom of brain tumor. Dr. Da Costa suggested that 'this might be due to the disease encroaching upon the floor of the fourth ventricle.'"

In answer to my questions, Dr. Rihl said there were no convulsions, no disturbance of sensation, so far as he could determine, no paralysis of any of the cranial nerves, no ocular symptoms other than blindness and a staring and fixed appearance of the eyeballs, no psychical phenomena but that mentioned in the history, and the pain was not severer at night than during the day, but there was intense thirst almost throughout his entire illness.

So far as I can learn, no attempt was made during life to locate this tumor, and its chief interest seems to be in the destruction of so large an amount of brain-substance in a region of the brain of which we know so little. The paralysis in the left arm and leg was never complete, but was much more marked in the leg than in the arm. This difference in the leg and arm may be accounted for by the softened mass of brain-substance which involved or encroached upon the *leg centre* in the anterior portion of the parietal lobe.

Report of the Committee on Morbid Growths.—"The specimen of brain tumor presented by Dr. Eskridge, and referred to the Committee on Morbid Growths for examination, was not in a very satisfactory state of preservation for histological study: however, it was determined to consist in part of degenerated brain-substance, and in part of a new formation composed of large spindle-shaped cells containing large nuclei, with a scarcely evident intercellular substance. The neoplasm presents the character of a large-cell spindle-cell sarcoma.

"December 12, 1878."

(To be continued.)

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting, held December 11, 1878, Dr. Henry H. Smith, President of the Society, in the chair, Dr. Goodell read a paper entitled "Vegetations of the Endometrium," which received a vote of thanks from the Society. (See p. 169.)

Treatment of menorrhagia.

Dr. Lewis D. Harlow, in opening the discussion, remarked that he had noticed a form of uterine hemorrhage coming on in the course of a few days or weeks after miscarriage or childbirth. Following this the menstrual function is irregular and the flow profuse and exhausting. In such cases the effect of the administration of ergot, aromatic sulphuric acid, and astringents is slight, unless aided by intra-uterine applications. For this purpose he had formerly been in the habit of using Monsel's solution (diluted with fifteen parts of water), but he now prefers the solu-

tion of the chloride of iron (liquor ferri chloridi, U.S.P.), *full strength*. When the uterus is large and the os patulous, he had found fifteen or twenty drops of the iron carried into the uterine cavity by means of a syringe to be very efficient. The injection should be slowly made, so as to introduce the fluid drop by drop, and should be employed once or twice a week until the cure is effected. Three or four applications generally suffice. In making such an injection, the precaution should be observed of having the os sufficiently open to permit the egress of the fluid: to secure this the introduction of a spongetent will be found necessary in some cases. Performed in this manner, the application is generally painless; it arrests the flow, and causes contraction of the uterus. Should there be any pain, an opium suppository will relieve it.

In cases of ordinary menorrhagia the same treatment, by dilatation and astringent intra-uterine applications, he had found to be very efficient and satisfactory.

Dr. Charles B. Nancrede stated that sarcomatous invasion of the uterus is more malignant than epithelioma.

The lecturer replied that remedies appear to do more good in uterine sarcoma than in epithelioma of the cervix; at least the patient's life lasts longer. Round-celled sarcoma is either a rare disease in connection with the womb, or it has heretofore largely escaped notice. In only about twenty cases of this form of sarcoma thus far reported, contrasted with an equal number of epithelial cancer, the treatment was longer in the former.

Scraping the mucous lining from the womb does but little harm. Even where this has been repeated and fuming nitric acid applied, pregnancy has occurred. One of his patients bore two children after such operations; and three others, one child apiece.

He was reminded by Dr. Harlow's remarks that he had not laid sufficient stress on placental vegetations, for which the same plan of treatment has been found successful as he had mentioned in the paper of the evening. In making intra-uterine applications with a syringe, he was in the habit of introducing the nozzle between the blades of a dilator, which insured the free escape of the fluids. Collapse and colic after an injection may be explained by the occurrence of a contraction of the internal os, preventing the fluid from flowing out: this excites uterine contraction, which forces the solution either through the Fallopian tubes or into the uterine sinuses, perhaps leading to cellulitis or peritonitis.

In reply to a question from the Chairman, he stated that he had not used the chloride of zinc solution for intra-uterine injections.

Dr. A. Fricke presented to the Society photographs of a well-marked case of syphilitic rupia in the person of a young man. He was entirely relieved by a course of tonics with mercurial inunctions.

Dr. C. Seiler exhibited a pair of scissors for cutting off an elongated uvula, which in his opinion possessed many advantages over the ordinary guillotine.

REVIEWS AND BOOK NOTICES.

THE PATHOLOGICAL ANATOMY OF THE EAR. By HERMANN SCHWARTZE, M.D., Professor in the University of Halle-on-the-Saale. With the Author's Revisions and Additions, and with the Original Illustrations. Translated by J. ORNE GREEN, A.M., M.D., Aural Surgeon Boston City Hospital, etc., etc. Boston, Houghton, Osgood & Co., 1878, pp. 174, 8vo.

We regret that our allotted space will not permit as long a review as we should like to give, and which should be given, of this most instructive book. As is said in the translator's preface, so can we most heartily say, "It is essentially a hand-book on the subject of which it treats, a small amount of space sufficing to give the results of researches the laboriousness of which can only be appreciated by those who have been engaged in similar work."

Although this book will be invaluable to specialists in aural surgery, it is filled with facts which every general practitioner of medicine ought to know, and which he must know if he intends to form a correct diagnosis in many cases of aural disease which will arise in his practice. Whether he desires to treat such cases or not, he cannot be relieved of a duty imposed on him by the very nature of his position as family adviser, and which obliges him to make a correct diagnosis and to inform the patient or the patient's family of the true nature of the aural disease in which he may find the sufferer.

The portion of this book which treats of caries and necrosis of the temporal bone should be read and remembered by every man who calls himself a doctor of medicine. No book since Toynbee's has contained so much pathology, and this book of course has the advantage not only of Prof. Schwartze's wide experience, but is also enriched by the large number of references to work done by other men, chiefly in Germany, since Toynbee's time. It might perhaps be said that the labors of Americans and Englishmen hardly get their share of acknowledgment in this erudite compendium from the pen of the professor of Halle, so justly celebrated for his otological knowledge. The French are generously referred to. The book is written in a succinct and very clear style, closely and successfully followed by the translator, and is indeed an encyclopædia of pathological facts pertaining to the ear, now placed within easy reach of

all English-speaking physicians. The book is rich in figures, sixty-five in number, remarkable for their variety, beauty, and accuracy. As examples of good drawing may be cited Figs. 5 and 9, in which the erosion of the temporal bone is most skilfully given by the artist, and Fig. 27, in which the appearance of exostosis of the external auditory canal is admirably rendered. Fig. 54, however, has decidedly lost accuracy by being transplanted from American soil (Roosa's Treatise on the Ear) to German territory. Of course the source of the figure is duly acknowledged by the author. It illustrates a rare instance of fracture of the malleus, originally reported by Dr. Weir, of New York City.

Since upon every one of the one hundred and seventy-four pages of this work more than one fact might be picked out and laid before the readers of this journal for their instruction, it is no easy task to decide which of these should be put down here in our necessarily short review. It would not, therefore, be asking too much if to the readers of this notice we should recommend reading every page of this book, which, indeed, is the only work strictly devoted to the pathological anatomy of the ear; it is, in fact, the sixth part of Klebs's "Manual of Pathological Anatomy." The science of medicine is under obligations to Prof. Schwartze for having bestowed so much telling labor on his book. The author has been extremely fortunate in his translator, to whom the thanks of his countrymen are due for his conveying to them so much information from German sources; and the American publishers of the book have done their work in the exquisite manner for which they are justly renowned. C. H. B.

GLEANINGS FROM EXCHANGES.

AMPUTATION OF ARM FROM COMPOUND COMMINUTED FRACTURE—LABOR TEN HOURS AFTER OPERATION—RECOVERY (*The British Medical Journal*, October 5, 1878).—Mr. A. B. Vesey reports the case of a woman, aged 35, who was admitted into a hospital in an extreme state of collapse, and quite delirious, having had her left arm "shattered" up to above the elbow-joint in the rollers of a flax-mill about eleven miles distant from town. She had evidently lost blood in considerable quantity, and on examination was found to be far advanced in pregnancy; but this she totally denied. Reaction having set in next morning, the limb was removed at the middle third by the ordinary circular operation. Chloroform was not given. A flannel-and-calico bandage was used as a substitute for Esmarch's bandage, which answered the purpose remarkably well. It was of importance in this case that as little blood should be lost as possible. After the patient was removed to bed, an opiate was given; but it was remarked by the nurse that soon after the operation she became extremely restless and excited, but never gave any other indication of being in labor. In the evening she said she was doing well, and did not complain of pain; and her pulse was quiet. Two hours after, she insisted upon getting out of bed, but was restrained from doing so. It was then evident that she was in labor, and could not conceal the fact any longer; and at about 9.30 P.M. (ten hours after operation) she was delivered of a son, the patient lying on her back. The placenta came away soon afterwards. There was no hemorrhage from the stump.

It is unnecessary to give a daily account of the case: suffice it to say, she made an uninterrupted recovery, and suckled her child. It may be added that she has since said that labor commenced immediately after the operation, and she was consequently ten hours ill. She also stated she was about two or three weeks from the full period of being delivered. Both mother and child left the hospital healthy and well.

INSTANCES OF DEFICIENT RENAL ELIMINATION.—It has been ascertained that in cases of albuminuria the kidneys are impermeable to odors: *e.g.*, turpentine and asparagus fail to communicate their peculiar odors to the urine in such cases. In a recent thesis M. Chauvet has collected observations showing that serious results may follow from active drugs when elimination is defective, and also how the mode of elimination of certain drugs is materially modified by the existence of disease of the kidneys. For example, the elimination of bromide of potassium, which, in a healthy subject, is completed within twenty hours after suspension of the medicine, continues for thirty or thirty-five hours when the kidney is diseased. The susceptibility of albuminuric patients to mercurials is well known to most practitioners.—*The Medical Press and Circular.*

RISE OF TEMPERATURE AFTER INJURY TO THE BRAIN.—Mr. Lucas recently narrated to the London Clinical Society (*British Medical Journal*, October 19) the case of a man, æt. 21, who committed suicide by shooting. Two conical bullets were extracted from the internal table after a crucial incision. The longitudinal sinus was seen pulsating, and the dura mater was perforated. The patient lived five days, during which time the prominent symptoms were convulsions, left hemiplegia, gradual rise of temperature to 108.6°. At the post-mortem the dura mater was found perforated in one small aperture; suppurative meningitis over the right hemisphere and anterior part of the left hemisphere; also slight bruising of each frontal lobe. In calling attention to this case we would urge upon our readers the importance of observing temperature in all cases of brain-wound.

MISCELLANY.

EXTRACT FROM A MEMORANDUM OF THE AMERICAN PUBLIC HEALTH ASSOCIATION ON LEGISLATION AFFECTING THE PUBLIC HEALTH.—

I. That while under ordinary circumstances the Association as a Scientific Body should hesitate to take the initiative in urging any specific legislation, yet at the present time it is expedient to state as precisely and definitely as possible our views as to what action should and should not be taken by Congress with regard to the Public Health, seeing that we believe there is great danger of unsatisfactory action on this subject, from want of proper and sufficient information.

II. That in view of the great diversity of opinion among those best qualified to judge, as to methods of quarantine, and especially as to the relations which should exist between national and local systems of quarantine; of the fact that we have not as yet sufficient information to enable us to formulate any system of National Quarantine which might not do more harm than good; and of our belief that there is a possibility of recurrence of Yellow Fever in the United States during the coming summer, from causes which may have survived from last summer, and which therefore cannot be prevented by any system of National Quarantine alone; we believe that any legislation, until further investigation has been made, with regard to a National Quarantine, either to provide a new law or to amend or enforce the present one, will be inexpedient and unwise.

We wish, however, that it shall be distinctly understood that we are not opposed to a National Quarantine System, if carefully elaborated and placed in proper connection with State and Municipal Sanitary Organizations, but we are well satisfied that it is impossible to organize such a system at the present time.

III. That it is highly desirable that Congress shall during the present session provide for the proper organization of a *Provisional* National Health Commission.

IV. That the objects and duties of this Commission should be as follows: A. To report to Congress at its next session a plan for a *permanent* National Public Health Organization, said plan to be prepared after consultation with State Boards of Health and with all those who possess special knowledge or experience bearing on this subject. This plan should include one for a National System of Quarantine. B. That it should take charge of any investigations into the causes and means of prevention of Yellow Fever or other epidemic diseases which may be referred to it by Congress, selecting experts for that purpose so far as may be necessary.

One of these investigations, at all events, should be made at some point where Yellow Fever is endemic, and by experimental methods, as suggested in the report of the Committee on the General Report of the Yellow Fever Commission, presented at the last meeting of the Association.

We do not think that this Commission should be burdened with any administrative duties which are not connected with the investigations just referred to, and it should in no manner be dependent upon, or be connected with, any existing bureau or department of the Government.

V. That it is of the greatest importance that this Commission should be composed of men well known for their scientific attainments and knowledge of Public Hygiene. They should be persons with whom all scientific and professional men of the country will be glad to co-operate and advise; to whom no suspicion can attach that they might consult personal interests or ambitions rather than the public good, and whose opinions when presented after due deliberation will command respect, if not the assent of all well-educated men. Such persons are not common, yet we are well satisfied that they exist, and that their services can be secured for this very important work.

VI. That the proper selection of these men is a matter of difficulty, and one which will require the greatest care. They can only be selected by some man or body of men competent to judge of their scientific attainments and special fitness. Political or local considerations should have no weight in this matter, nor, unless there are grave legal or constitutional objections, should any officer of the Government be burdened with, or allowed to assume the responsibility of, selecting them. After careful consideration of various plans proposed to secure this end, which is felt by all to be vitally necessary to success, we are of opinion that the simplest and surest method, and the one which will command the most general approval among the scientific and professional men of the country, is that Congress should request the National Academy of Sciences to designate the members of the Commission.

VII. That the number of persons in the Commission should not be less than seven nor more than nine, that they shall elect their own officers, and that their compensation should not be less than ten dollars per day for each and every day that they are engaged in the work of the Commission, besides their travelling expenses. That the Commission shall be authorized to employ such clerical force as may be necessary to carry out its work, and that the Commission shall fix the rates of pay of its employees and of the experts which it may select and employ.

VIII. That an adequate appropriation should be made to meet the expenses of the Commission and of the investigation which may be placed under its direction.

IX. That upon the request of the Com-

mission, the Secretaries of War, of the Navy, and of the Treasury, or of other Departments, and the Attorney-General, shall be authorized to detail officers from their several Departments to aid in the investigation undertaken, the number so detailed not to exceed three from any one Department at the same time.

X. That it is highly desirable that there should be added to the Standing Committees of the Senate and House of Representatives a Committee on Public Health.

XI. We are entirely convinced that the future of Public Hygiene in this country depends mainly upon the proper organization of State and Local Boards of Health, and upon such recognition of their importance and utility by the people and their legislators, that the necessary means and powers shall be granted to them to enable them properly to perform their duties. We believe that the General Government can do much to stimulate and encourage the formation of such Boards, and that an important part of the duty of the Provisional National Health Commission which we have recommended, will be to point out what can best be done to forward this object.

Such Boards can do good work, not only for their own locality, but for the Nation; and if the Nation will pay for this work it will be most cheerfully done, especially if a proper Central Health Organization be arrived at, with which they can co-operate, as we hope and believe will be the case if the plan which we have suggested be carried out.

XII. In conclusion, we would state that in our opinion the true interests of Public Health and of Sanitary Science in the United States are in grave danger at the present time, and that it is the duty of all professional and scientific men, both as individuals and as members of learned societies, to endeavor to prevent premature legislation, which is now threatened, but which we believe the great majority of our National Legislators will oppose if properly informed upon the subject.

NOTES AND QUERIES.

A BILL TO ESTABLISH A DEPARTMENT OF PUBLIC HEALTH.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established at the seat of government of the United States a Department of Health, the general design and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects connected with the public health; to direct the establishment and management of efficient sanitary and quarantine systems and regulations throughout the several States and Territories of the United States; to supervise the Marine Hospital Service, and to organize and direct a corps of sanitary engineers competent to superintend all public works so far as their construction may affect the public health.

SEC. 2. That there shall be appointed by the President, by and with the advice and consent of the Senate, a Director-General of Health, who shall be the chief executive officer of the Department of Health, and who shall receive for his compensation a salary of seven thousand five hundred dollars per annum, and the Director-General of Health may for cause be suspended by the President from the discharge of official duties, or removed from office upon hearing before the Chief Justice of the United States.

SEC. 3. That it shall be the duty of the Director-General of Health to perform all of the duties and exercise all of the powers now devolving upon the Supervising Surgeon-General of the Marine Hospital Service, both in regard to the direction and execution of the laws and regulations governing the Marine Hospital Service, and also in supervising the organization and management of the quarantines of the United States as provided by the national quarantine act, approved April twenty-ninth, eighteen hundred and seventy-eight, and to this end the office of the Supervising Surgeon-General of the Marine Hospital Service is hereby abolished, and all of the duties and powers of that office, together with all of the records, papers, and other matters pertaining to the Marine Hospital Service, are hereby transferred to and shall become a part of the Department of Health.

SEC. 4. That it shall be the duty of the Director-General of Health to make and enforce all quarantine and other regulations for the prevention of cholera, yellow fever, and other epidemic diseases in the United States; and whenever cholera or yellow fever appears in any locality, and information thereof is brought to the knowledge of said officer, he shall prepare and carry into effect such rules and regulations as in his judgment will, with the least inconvenience to commerce and travel, prevent the spread of the disease.

He shall select suitable localities for establishing quarantine stations, and may erect necessary temporary buildings for the disinfection of passengers, baggage, cargoes, and other matters believed to convey the contagious principle of cholera, yellow fever, smallpox, and other epidemic diseases, and may enforce such transshipment of passengers, baggage, and cargoes as he may deem necessary, and shall assign to the charge of each station a competent medical officer and necessary assistants.

SEC. 5. That it shall be the duty of the Director-General of Health to prepare suitable tables for the taking of each census, the tables to embody such facts relating to births, deaths, marriages, the prevalence of disease, and such other data as will furnish a basis for securing a complete system of registration of vital statistics for the United States.

SEC. 6. That the Director-General of Health shall procure information relating to the climatic, meteorological, geological, and other conditions affecting the public health, and shall furnish, on application, all information in his power as to the healthfulness of any given locality, and its prevailing diseases.

SEC. 7. That the Director-General of Health shall have power to employ persons of proper scientific knowledge and skill to make special investigations on subjects connected with the public health, and may award to them such compensation as he deems reasonable and just.

SEC. 8. That it shall be the duty of the Director-General of Health to make annually a general report, in writing, of his acts, to the President, for transmission to Congress, in which he may recommend the publication of papers forming part of or accompanying his report, and shall make special reports on particular subjects, whenever required to do so by the President or either House of Congress, or whenever he thinks the public welfare demands it, and shall direct and superintend the expenditure of all moneys appropriated by Congress for the support of said department, and shall render accurate accounts thereof.

SEC. 9. That there shall be appointed for duty in said department whatever additional officers are required, including a chief clerk, chemist, engineers, experts, and so forth, whose compensation shall not exceed that authorized for similar officers in other departments.

SEC. 10. That all acts or parts of acts inconsistent with this act be and the same are hereby repealed.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 29, 1878, TO JANUARY 11, 1879.

BARTHOLF, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Alcatraz Island, California. S. O. 187, Division of the Pacific and Department of California, December 19, 1878.

SEMIG, B. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Now on leave of absence, to report in person to the Commanding General, Department of the South, for assignment to duty. S. O. 7, A. G. O., January 9, 1879.

ROSSON, R. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Camp Apache, Arizona Territory. S. O. 149, Department of Arizona, December 23, 1878.

GRAY, C. C., MAJOR AND SURGEON.—Relieved from duty in Department of the Missouri, to proceed to his home, Chester, New York, and there await further orders. S. O. 7, A. G. O., January 9, 1879.